

Burn Therapy

USSR

UDC 617-001.17-085.33-059:615.357.453

MEL'NIKOVA, V. M., BOLKHOVITINOVA, L. A., and GLADSHTEYN, A. I., Central Institute of Traumatology and Orthopedics Ministry of Health USSR, Moscow

"Combined Topical Application of Antibiotics and Corticosteroids in the Treatment of Burn Wounds"

Moscow, Sovetskaya Meditsina, Vol 33, No 7, Jul 70, pp 108-112

Abstract: Hydrocorticocin ointment (active ingredients, hydrocortisone and neomycin) was used for topical treatment of burn wounds in 76 patients and on excessively scarred skin donor areas in 27 patients. The burns were of the 2nd and 3rd (both A and B) degree and covered from 5-45 percent of the body surface area. The results indicated that hydrocorticocin is effective in such cases, particularly for treatment of 3-A burns, if it is applied after detachment of the scab. Hydrocorticocin prevents excessive proliferation of the granulation tissue, promotes epithelization, reduces inflammation, and eliminates microflora, thus accelerating healing. Formation of keloid scars is markedly inhibited. Since the drug is applied topically, it does not upset the body's natural balance of corticosteroid hormones.

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Acc. Nr: **AP0054656**

**G**

Ref. Code: **UR 9115**

PRIMARY SOURCE: **Ortopediya, Travmatologiya i Protezirovaniye,**  
1970, Nr **2**, pp **39-44**

**ANTIBIOTICS IN THE PROPHYLAXIS AND TREATMENT OF BACTERIAL  
INFECTION IN TRAUMATOLOGIC AND ORTHOPAEDIC PATIENTS**

**V. M. Mel'nikova, A. I. Gladshteyn, O. N. Markova, M. I. Malova,**  
**N. P. Ivanova, Z. G. Sirinova and V. V. Kuzmenko**

Facts on the prophylaxis and treatment with antibiotics of infected wounds in traumatologic and orthopaedic patients based on clinical and laboratory data of CITO are presented in the paper. In primary surgical wound debridement the authors prescribe penicillin with streptomycin or tetracyclin. It is stressed that the use of antibiotics in the so-called "clean" orthopaedic operations should be substantially limited and the demands of surgical aseptic enhanced. In purulent wound infection the staphylococcus and representatives of the intestinal group of microorganisms were the most common bacterial associations cultured. For the last year the appearance of staphylococcus in the monoculture from the infected wounds increased. Various antibiotics, their combinations with each other, sulfanilamides or nitrofurane preparations, depending on the microflora sensitivity to them and concentration created in the focus of infection, are used in the treatment of purulent infection. The success of antibacterial therapy has been shown to depend on the rational use of antibiotics in complex with other methods of conservative and operative treatment and drugs which stimulate the organism reactivity.

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REEL/FRA  
**19831822**

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USSR

UDC 547.241

~~GLADSHTEIN, B. M.~~, ZAKHAROV, B. L., SOSINA, M. M., SPITSYN, A. A.

"Reaction of Perchloromethylmercaptan with Di- and Mono-esters of Methylphosphonous Acid"

Leningrad, Zhurnal Obshchei Khimii, Vol 40, No 6, Jun 70, pp 1245-1248

Abstract: The reaction of perchloromercaptan in a dry N atmosphere with di- and mono-esters of methylphosphonous acid was studied. In the case of monoalkyl methylphosphonite at  $-20^{\circ}$ , taken in an equimolar amount with perchloromercaptan, O-alkyl methylchlorophosphonate (75% with respect to the monoalkyl methylphosphonite), thiophosgene (35% with respect to the perchloromethylmercaptan), and a small amount of hexachlorodimethyl disulfide were studied. The diesters of methylphosphonous acid react with perchloromercaptan in different ways, depending on the order of mixing of the reagents. When the dialkyl methylphosphonite is added to perchloromethylmercaptan at  $-50^{\circ}$ , O-alkyl methylchlorophosphonate, hexachlorodimethyl disulfide, and alkyl chloride were isolated. The reverse order of addition of the reagents led to the formation of O-alkyl S-tris(alkylmethylphosphonyl)-methyl methylthiophosphonate (50% with respect to the dialkyl methylphosphonite) and alkyl chloride. These results are apparently in agreement with the results obtained by other researchers.

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USSR

UDC: 621.396.69.002.2

AL'TMAN, D. I., GLADSHTEYN, G. M., ROTSEMAR, D. B.

"A Device for Sorting Radio Components"

USSR Author's Certificate No 279116, filed 14 Apr 69, published 23 Nov 70  
(from RZh-Radiotekhnika, No 6, Jun 71, Abstract No 6V456 P)

Translation: This Author's Certificate introduces a device for sorting radio components with respect to their temperature dependent parameters. The device contains a vibration hopper, an accumulation mechanism, a measurement circuit and thermostat with automatic temperature control made in the form of alternating stationary and movable plates with heaters and contacts. As a distinguishing feature of the patent, reliability is improved by making the measurement contacts of the thermostat on a spring-loaded sector located on a stationary plate coaxially with the other plates, which interact through a crown wheel with a pinion which is fitted with a shoe and engages with one of the stationary plates of the thermostat.

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USSR

UDC 669.14.018.29

GLADSHTEYN, L. I., BOBYLEVA, L. A., and LITVINENKO, D. A., Central Scientific Research and Planning Institute of Steel Construction and Central Scientific Research Institute of Ferrous Metallurgy imeni I. P. Bardin

"Increase of Cold Resistance of High-Strength Structural Steel"

Moscow, Stal', No 6, Jun 73, pp 541-546

Abstract: The effect of moderate additions (up to 1.6%) of nickel to high-strength 12G2MF steel (without boron) and to the C-Mn-V system with boron was investigated with a view to increase the cold resistance on experimental melt of 17-kg ingots from induction-arc furnace rolled to 20-mm sheets. Small additions of Ni(0.5-1.0%) somewhat raised the resistance to brittle failure of C-Mn-V-B system steel, but a further increase did not give positive results; at ~ 2.5% Ni content, the cold resistance of C-Mn-V-B type steel lowered, and a rise of tempering temperature up to 690°C did not result in any improvement. Effects of the hardening temperature, the welding method, and of the grain size on mechanical properties and the sectional distribution of hardness were investigated. Thirteen figures, two tables, eleven bibliographic references.

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USSR

UDC 699.018

GLADSHTEYN, L. I., LITVINENKO, D. A.

"High-Strength Structural Steel"

Vysokoprochnaya Stroitel'naya Stal' [English Version Above], Metallurgiya Press, Moscow, 1972, 238 pages.

Translation of Annotation: This book presents the primary mechanical and technological properties of high strength steels designed for the manufacture of welded steel structures, means for production, peculiarities of metallurgical plant production and applications in technology, as well as the physical nature of strength and alloying, reliability in service of low-alloy high-strength steels. In addition to domestic works, an extensive bibliography of foreign studies and practice is presented.

The book is designed for engineering-technical and scientific workers in the metallurgical, construction and machine building industries, and may also be used as a teaching aid for university students. 179 Figures; 81 Tables; 214 Biblio. Refs.

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GLADSHTEYN, L. I., LITVINENKO, D. A., Vysokoprochnaya Stroitel'naya Stal', Metallurgiya Press, Moscow, 1972, 238 pp.

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GLADSHETYN, L. I., LITVINENKO, D. A., Vysokoprochnaya Stroitel'naya Stal', Metallurgiya Press, Moscow, 1972, 238 pp

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USSR

NIKITIN, V. N., LITVINENKO, D. A., STETSENKO, B. A., GLADSHTEYN, L. I.,  
KACHURIN, D. S., and VOROZHISHCHEV, V. I., Central Scientific Institute of  
Ferrous Metallurgy, Kuznetsk Metallurgical Combine

"Increasing the Ductility and Impact Strength of Carbon Steel"

Moscow, Metallurg, No 8, Aug 71, pp 17-19

Abstract: A basic structural steel for different structures and machines is steel St. 3sp which, according to GOST 380-60 has an impact strength of 3 kg-m/cm<sup>2</sup> at -20°C. Aluminum in the amount of 0.1-0.2% improves its impact strength and increasing Al content to 0.052% does not improve strength properties but leads to an increased ductility of hot-rolled steel from 20-25.7% at 0.0074% Al up to 26-34.0% at 0.052% Al. In studies of steels St. 3 sp and St. 3Yu in sheet form it was found that aluminum improves their impact strength at -40°C, although the thicker the sheet the greater the tendency to cold brittleness. Steel St. 3Yu has a greater impact strength than St. 3sp due to smaller size of ferrite grains. In all instances (for steel St. 3sp) strength properties were better for the normalized state than for the hot-rolled state.

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GLADUN, V.P.

*explanations*

GLORIA

SO: JPRS 55937

9 MAY 1972

(W/summary)

EXPERIMENTS IN CLASSIFICATION AND FORMATION OF CONCEPTS

(Article by V. P. Gladun, Ye. P. Popov, and Z. L. Babitskiy; Kiev, Kharkivskiy Vychislitel'nyi Tsentr, Russian, No. 7, 1970, pp. 28-32)

Experiments in the classification and formation of concepts were conducted in connection with the construction of a model of the brain as a learning system. The model is a programmed, growing network of neuron-like elements realizing reception, processing, and recognition of signals arriving from the outside medium, and the control of activity determined in the outside medium. Since reliable information concerning information processing in the human brain is still incomplete, each such model [1] realizes some hypothesis of the structure and particular aspects of the operation of the neuron network. We can obviously consider the capability of the model for solving the problem, so far the exclusive prerogative of the human brain, as the criterion of correctness of the adopted hypothesis. The classification and formation of concepts were chosen, from among a number of similar problems, for clarifying the possibilities of the developed model. Since we shall only discuss these problems in what follows, these characteristics of the model not used in their solution will be omitted from this article.

Description of the Model

The model has receptors capable of grasping signals entering from the outside medium. In problems of the classification and formation of concepts, the objects are represented by a combination of signals, each of which corresponds to one of the characteristics of the object.

The memory elements of the model may be found in one of two states: active or passive, according to which the information is or is not preserved. In the process of perception, a net is formed in the model whose nodes are receptors and active elements. The nodes of this network may have input and output connections. The nodes connected with some node A by the input connections are defined as inferior nodes of node A.

USSR

UDC: 681.3.06:51

GLADUN, V. P., POPURIY, Ye. P.

"An Interpreting System for the IPL-5 Language"

V sb. Kibernet. tekhnika. Vyp. 9 (Cybernetic Technology--collection of works, No 9), Kiev, 1971, pp 74-78 (from RZh-Kibernetika, No 7, Jul 71, Abstract No 7V731)

Translation: IPL-5 (Information Processing Language) is a language designed for solving complex logic problems having the following singularities: a) the information is presented in the form of symbols having both numerical and non-numerical significance; b) memory distribution cannot be predetermined in the program since during operation old data may disappear and new data may appear whose extent and complexity can scarcely be foreseen; the various data to be processed are interrelated by associative ties which may change during operation of the program -- some relationships showing up, while others disappear. Among such problems are information retrieval, linguistic problems, automation of synthesis, simulation of thought processes, etc. The peculiarities of the

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GLADUN, V. P., POPURIY, Ye. P., Kibernet. tekhnika. Vyp. 9, Kiev, 1971,  
pp 74-78

IPL-5 language and the make-up of its interpreter are described. It is noted that IPL-5 is presently one of the most widely used languages for processing of symbolic information presented in the form of lists. V. Mikheyev.

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USSR

UDC 536.24

PETUKHOV, B. S., KURGANOV, V. A., GLADUNTSOV, A. I., Institute of High Temperatures of the Academy of Sciences USSR

"Experimental Study of Heat Transfer to a Turbulent Flow of Multiatomic Gas Under High-Temperature Heads"

Moscow, Teplofizika Vysokikh Temperatur, No 6, Nov/Dec 70, pp 1311-1315

Abstract: New experimental data are presented on local heat transfer in the heating of a turbulent flow of nitrogen and ammonia for which, as for other multiatomic gases, it is characteristic to have a more considerable change in viscosity, specific heat, and especially heat conductivity with temperature than in the case of simple gases. The measurements were conducted in two stainless steel tubes with internal diameters of 3 and 4 mm. The length of the heating zone was 90-95 calibers. The tubes were heated by passing a dc current directly through the wall. Local heat releases were determined on the basis of the current and voltage drops at sections between potentiometric leads. Experiments on ammonia were conducted for Reynolds numbers of  $10^4$ - $2.4 \cdot 10^5$  at the output, an initial gas temperature of 20-150°C, and a wall temperature up to 900°C. The density of the heat flux varied from  $1.1 \cdot 10^4$  to

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PETUKHOV, S. B., et al., Teplofizika Vysokikh Temperatur, No 6, Nov/Dec 70, pp 1311-1315

$1.5 \cdot 10^6 \text{ w/m}^2$ . Control experiments on  $N_2$  were conducted at a gas temperature at the output of  $\sim 20^\circ\text{C}$ ; the Reynolds number varied from  $3 \cdot 10^4$  to  $10^5$  and the heat flow density varied from  $17.5 \cdot 10^3$  to  $5 \cdot 10^5 \text{ w/m}^2$ . The data show that in the case of the heating of ammonia, the functional dependence of Nu on Re and Pr retains approximately the same form as in isothermal flow. A considerable increase in the heat conductivity of ammonia, especially in the region near the wall (the more heated region), to a considerable degree compensates for the weakening of convective exchange associated with the decrease in gas density under heating, and this causes a considerably weaker dependence of the Nusselt number on the temperature factor.

172 037 UNCLASSIFIED PROCESSING DATE--30OCT70  
TITLE--FLOW OF A RAREFIED GAS NEAR A NONUNIFORMLY HEATED SURFACE -U-

AUTHOR--(02)--ABRAMOV, YU.YU., GLADUSH, G.G.

COUNTRY OF INFO--USSR

SOURCE--AKADEMIYA NAUK SSSR, IZVESTIYA, MEKHANIKA ZHIDKOSTI I GAZA,  
MAR.-APR. 1970, P. 20-29  
DATE PUBLISHED--70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--GAS FLOW, RAREFIED GAS, MOLECULAR KINETICS, SURFACE PROPERTY,  
CONDUCTIVE TRANSFER

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAME--2000/1191

STEP NO--UR/0421/70/000/000/0020/0029

CIRC ACCESSION NO--AP0124845

UNCLASSIFIED



2/2 037

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0124845

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ANALYTICAL STUDY OF THE PROBLEM OF CALCULATING THE SLIP COEFFICIENTS OF A GAS AT A SURFACE. SOLUTIONS ARE OBTAINED FOR THE LIMITING CASE OF AN ISOTROPIC SCATTERING OF MOLECULES AT THE WALL AND FOR THE LIMITING CASE OF A NEAR SPECULAR SCATTERING LAW.

IT IS SHOWN THAT THERE EXISTS AN EXPLICIT RELATIONSHIP BETWEEN THE TEMPERATURE SLIP COEFFICIENT AND THE ISOTHERMAL SLIP COEFFICIENT. IF THE PRESSURE GRADIENT IS TAKEN INTO ACCOUNT, THE VALUE OF THE TEMPERATURE SLIP IS PROPORTIONAL TO THE DERIVATIVE OF A CHAOTIC MOLECULAR FLOW.

UNCLASSIFIED

USSR

UDC: 51:155.01.57:681.3.06

~~GLADIV, V. P.~~ MAZAYEVA, S. P., SAVA, I. G.

"Experiments on Pattern Recognition Using Growing Networks"

Probl. bioniki. Resp. mezhved. temat. nauch.-tekhn. sb. (Problems of Bionics. Republic Interdepartmental Thematic Scientific and Technical Collection), 1971, vyp. 6, pp 63-69 (from RZh-Kibernetika, No 12, Dec 71, Abstract No 12V1001)

Translation: An algorithm for teaching growing networks to recognize patterns is described. A method of realizing this algorithm in the form of a computer program is considered together with digital computer experiments which illustrate operation of the algorithm. Authors' abstract.

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1/2 028 UNCLASSIFIED PROCESSING DATE--18SEP70  
TITLE--THE INFLUENCE OF PYROGENAL ON THE LIVER OF RATS SUBJECTED TO THE  
EFFECT OF CCL SUB4 -U-  
AUTHOR--(04)-AVRAMENKO, M.M., ODINOKOVA, V.A., ORDOBOVA, G.A., GLADYSHEV,  
B.N.  
COUNTRY OF INFO--USSR  
SOURCE--BYULLETIN' EKSPERIMENTAL'NOY BIOLOGII I MEDITSINY, 1970, VOL 69,  
NR 3, PP 43-46  
DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--ORGAN REGENERATION, LIVER, RAT, TOXICOLOGY, CARBON  
TETRACHLORIDE, CYTOPLASM, GLYCOGEN, ALBUMIN, CHOLINESTERASE, ENZYME  
ACTIVITY, BETA GLOBULIN, PYROGEN

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAME--1982/0851

STEP NO--UR/0219/70/069/003/0043/0046

CIRC ACCESSION NO--AP0052285

UNCLASSIFIED

2/2 028 UNCLASSIFIED PROCESSING DATE--13SEP70  
CIRC ACCESSION NO--AP0052285  
ABSTRACT/EXTRACT--(U) GP-C- ABSTRACT. THE INFLUENCE OF PYROGENAL ON  
PROCESSES OF REGENERATION IN THE LIVER IN RATS WITH EXPERIMENTAL CCL  
SUB4 HEPATOSIS WAS STUDIED. AS THE RESULT OF PYROGENAL TREATMENT IN THE  
LIVER TISSUE OF ANIMALS THERE APPEARED SIGNS OF REGENERATION; THE NUMBER  
OF DIVIDING CELLS INCREASED, THERE APPEARED LARGE HEPATOCYTES WITH A  
SIGNIFICANT ACCUMULATION OF GLYCOGEN IN THE CYTOPLASM. THE EMPLOYMENT OF  
PYROGENAL WAS CONDUCTIVE TO NORMALIZATION OF THE PICTURE OF BLOOD SERUM  
PROTEINS, AN INCREASED CONTENT OF ALBUMINS AND A REDUCED CONTENT OF BETA  
GLOBULINS DOWN TO NORMAL VALUES. THERE WAS FOUND NO STATISTICALLY  
SIGNIFICANT CHANGES IN THE ACTIVITY OF CHOLINESTERASE AND HISTIDASE IN  
THE-BLOOD SERUM AND IN THE HOMOGENATE OF HEPATIC TISSUE OF RATS  
RECEIVING PYROGENAL, IN COMPARISON WITH ANIMALS NOT GIVEN THE LATTER.  
DURING PYROGENAL TREATMENT IN THE PROCESS OF CCL SUB4 INTOXICATION THERE  
WAS NOTED A MORE RAPID NORMALIZATION IN THE CONTENT OF ALBUMINS AND BETA  
GLOBULINS OF THE BLOOD SERUM DURING RECOVERY.

UNCLASSIFIED

Controls

USSR

UDC 621.385.6

BORISENKO, V. D., PETRANGOVSKIY, A. N., GLADYSHEV, G. I.

"Creation of Automatic Control System of Programmed Type [ASUTP] at Microwave Electrovacuum Device Enterprises"

Elektron. tekhnika. Nauch.-tekhn. sb. Tekhnol. i organiz. proiz-va (Electronics Technology. Scientific-Technical Collection. Technology and Organization of Production), 1971, Issue 4(44), pp 77-80 (from RZh--Elektronika i yeye primeneniye, No 11, Nov 1971, Abstract No 11A171)

Translation: On the basis of the characteristics of the production of microwave electron devices and the necessity for automation of the process of manufacturing parts and control of parameters, the advisability is confirmed of creating an automatic control system using programmed equipment. Summary.

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USSR

UDC: 621.317.335.3

PEREVERTEN', V. I., GLADYSHEV, G. I.

"Accounting for Systematic Errors in the Measurement of Electromagnetic Parameters of Materials by a 'Quasidielectric' Cavity Method"

Dokl. Vses. nauchno-tekhn. konferentsii po radiotekhn. izmereniyam. T. 1 (Reports of the All-Union Scientific and Technical Conference on Radio Engineering Measurements. Vol. 1), Novosibirsk, 1970, pp 101-102 (from RZh-Radiotekhnika, No 1, Jan 71, Abstract No 1A352)

Translation: The authors note the promise of "quasidielectric" cavity methods of measuring the electromagnetic parameters of substances in the microwave band, i. e. methods which utilize an open resonator with flat metal reflectors which enclose a circular cylindrical specimen. However, the measurement precision of these methods is limited by the presence of appreciable systematic errors which depend on the coupling impedance introduced and also on the clearance between specimen and reflector. It is very difficult to account for these errors theoretically, but they may easily be accounted for experimentally during the measurement process. The appropriate

USSR

PEREVERTEN', V. I., GLADYSHEV, G. I., Dokl. Vses. nauchno-tekhn. konferentsii po radiotekhn. izmereniyam. T. 1., 1970, pp 101-102.

procedure is given. A schematic diagram is presented for an installation on which the permittivity and loss angle of dielectrics were measured in the 3-cm and 2-mm bands, as well as the results of measurement of the parameters of some materials with indication of errors as determined by the proposed method. E. L.

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USSR

UDC 621.317.335.3

GLADYSHEV, G. I., KAPITKIN, B. T.

"Method of Measuring  $\epsilon$  and  $\text{tg } \delta$  of Liquid Dielectrics in the Superhigh Frequency Range"

Elektron. tekhnika. Nauchno-tekhn. sb. Kontrol'no-izmerit. apparatura (Electronic Engineering. Scientific and Technical Collection. Measuring and Control Equipment), 1970, vyp. 3 (21), pp 15-19 (from RZh-Radiotekhnika, No 4, Apr 71, Abstract No 4A293)

Translation: A version of the resonator method is proposed for measuring  $\epsilon$  and  $\text{tg } \delta$  of liquids with small losses. In this method a volumetric resonator with a  $H_{01n}$  wave is partially filled by the investigated liquid dielectric.

Direct movement of the contactless plunger in the liquid dielectric insures high accuracy of measuring the dielectric constant. The frequency filling of the resonator volume and use of the transforming properties of the separating dielectric plate permit expansion of the measurement range of the dielectric losses by comparison with the methods of total filling.

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1/2 012 UNCLASSIFIED PROCESSING DATE--18SEP70  
TITLE--POLYMERIZATION OF METHYL METHACRYLATE IN THE PRESENCE OF BUTYL  
NITRITES DURING PHOTO AND REAGENT INITIATION -U-  
AUTHOR-(03)-SECHKOVSKAYA, V.A., LEPLYANIN, G.V., GLADYSHEV, G.P.

COUNTRY OF INFO--USSR

SOURCE--IZV. AKAD. NAUK KAZ. SSR, SER. KHIM. 1970, 20(1), 59-64

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--POLYMETHYLMETHACRYLATE, POLYMERIZATION INHIBITION, ORGANIC  
PEROXIDE, PHOTOPOLYMERIZATION, NITRITE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAE--1987/0323

STEP NO--UR/0360/70/020/001/0059/0064

CIRC ACCESSION NO--AP0103978

UNCLASSIFIED

2/2 012

UNCLASSIFIED

PROCESSING DATE--18SEP70

CIRC ACCESSION NO--AP0103978

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. BU NITRITES, WHICH CAUSE WEAK INHIBITION OF ME METHACRYLATE POLYMN. IN THE DARK WITH INITIATION BY BZ SUB2 O SUB2 OR DICYCLOHEXYL PEROXYDICARBONATE, STRONGLY INHIBIT LIGHT INITIATED POLYMN. N, ISO, SEC, AND TERT BUONO SCARCELY AFFECT POLYMN. SPEED IN THE INITIAL STAGES BUT THEY SLOW DOWN THE PROCESS AT THE GELATION STAGE AT HIGH DEGREES OF CONVERSION. RATIOS OF INHIBITION CONSTS. TO GROWTH CONSTS. AT 40DEGREES FOR THE 4 ISOMERS WERE 8.5-12.5 TIMES 10 PRIME NEGATIVE2. THE PROPOSED MECHANISM OF INHIBITION WITHOUT IRRADN. INVOLVES REACTION BETWEEN FREE RADICALS R TIMES AND BUONO TO GIVE BUOR AND NO, WHICH MAY REACT WITH FREE RADICALS AT LOW TEMPS. OR ADD TO THE MONOMER AT HIGHER TEMPS. (90DEGREES) WHERE THE INHIBITING EFFECTS ARE ALMOST NIL. DURING PHOTOPOLYMN., THE BUONO GIVES NO AND BUO RADICALS, WHICH MAY ADD TO THE MONOMER TO GIVE CHAIN GROWTH VIA R TIMES, BUT R TIMES CHAINS MAY BE TERMINATED BY 3 REACTIONS: R TIMES PLUS NO YIELDS RND; R TIMES PLUS RND YIELDS RNOR; OR R TIMES PLUS RNOR YIELDS RONR SUB2. TEMP. INCREASES FOR PHOTOPOLYMN. ALSO WEAKEN THE INHIBITING INFLUENCE OF NITRITES.

UNCLASSIFIED

1/2 018 UNCLASSIFIED PROCESSING DATE--04DEC70  
TITLE--COPOLYMERIZATION OF PHENYLACETYLENE WITH SOME ALKYL METHACRYLATES  
-U-  
AUTHOR--(04)-KARZHAUBAYEVA, R.G., LDOKOVA, G.M., GLADYSHEV, G.P., RAFIKOV,  
S.R.  
COUNTRY OF INFO--USSR  
SOURCE--TR. INST. KHIM. NAUK, AKAD. NAUK KAZ. SSR 1970, 28, 115-17  
DATE PUBLISHED-----70  
SUBJECT AREAS--CHEMISTRY  
TOPIC TAGS--COPOLYMERIZATION, BENZENE DERIVATIVE, ACETYLENE, ACRYLATE  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRA--3005/0770 STEP NO--UR/0000/70/023/000/0115/0117  
CIRC ACCESSION NO--AT0132868  
UNCLASSIFIED

2/2 018

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AT0132868

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. PHC TRIPLE BOND CH (I) WAS  
COPOLYMD. WITH H SUB2 C:CMECO SUB2 R (II) AT 60DEGREES IN SEALED TUBES  
CONTG. 0.1PERCENT AZOBISISOBUTYRONITRILE (ON MONOMERS WT.). THE  
REACTIVITY RATIOS (R SUB1 FOR II AND R SUB2 FOR I) WERE (R IN II, R  
SUB1, AND R SUB2 GIVEN): ET, 2.1, 0.23; PR, 1.4, 0.22; BU, 1.7, 0.21;  
ISO-BU, 1.9, 0.27.

UNCLASSIFIED

USSR

UDC 533.6.011.72

GLADYSHEV, M. K., and GORELOV, V. A., Moscow

"Experimental Determination of the Ionization Time Behind a Strong Shock Wave in Air"

Moscow, Izvestiya Akademii Nauk USSR, Mekhanika Zhidkosti i Gaza, No 1, Jan-Feb 73, pp 171-173

Abstract: The ionization rate in air behind strong shock waves was experimentally investigated in the  $v_s=6-14$  km/sec velocity range in an electric discharge shock tube by the method of ion probes, previously used by W. E. Scharfman et al. (AIAA Journal, 1970, Vol 8, No 6). This method has a high space exhaustion making possible a direct registration of the profile of growing concentration of electrons. The investigation results are discussed by reference to a diagram showing shock wave velocity  $v_s$  dependences on products of initial pressure and ionization rate. The good agreement of the results with data of other authors and the presence of a strong maximum at  $v_s \approx 9$  km/sec indicate the correctness of the applied method at  $v_s < 8.5$  km/sec. Two figures, ten bibliographic references.

1/1

USSR

LEVI, L. I. and GLADYSHEV, S. A., Moscow Institute of Steel and Alloys

"The Formation of Sphere-Type Graphite in Synthetic Fe-C-Si Alloys"

Moscow, Izvestiya vysshikh uchebnykh zavedeniy: Chernaya metallurgiya, No 5, 1971, pp 155-157

Abstract: The authors study the microstructure, gas content, and the qualitative distribution of C, N, Si, O, and Mg, using the "Samasa" microanalyzer. The results show that graphite is lamellar in admixture-pure Fe-C-Si alloys of hypoeutectic, hypereutectic, and eutectic composition. Original article: one figure, one table, and eight bibliographic entries.

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1/2 032 UNCLASSIFIED PROCESSING DATE--09OCT70  
TITLE--EFFECT OF HIGH TEMPERATURE OVERHEATING ON THE PROPERTIES OF FOUNDRY  
CAST IRONS -U-  
AUTHOR-(02)-LEVI, L.I., GLADYSHEV, S.A.  
COUNTRY OF INFO--USSR  
SOURCE--LITEINDE PROIZVOD. 1970, (1), 17-18  
DATE PUBLISHED-----70

SUBJECT AREAS--MATERIALS, MECH., IND., CIVIL AND MARINE ENGR

TOPIC TAGS--CAST IRON, ALLOY COMPOSITION, BORON, NONMETALLIC INCLUSION,  
HELIUM, NITROGEN, OXYGEN, BLAST FURNACE, HIGH TEMPERATURE EFFECT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRA--1995/1341

STEP NO--UR/0128/70/000/001/0017/0018

CIRC ACCESSION NO--AP0116801

UNCLASSIFIED

2/2 032

UNCLASSIFIED

PROCESSING DATE--09OCT70

CIRC ACCESSION NO--AP0116801

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE EFFECT OF HIGH TEMP. (1800DEGREES) OVERHEATING IN HE ON THE STRUCTURE, GAS CONTENT, AMT. AND COMPN. OF NONMETALLIC INCLUSIONS WAS STUDIED WITH 3 KINDS OF BLAST FURNACE FOUNDRY CAST IRON FROM 3 STEEL MILLS WITH VARIED CHEM. COMPN. AS FOLLOWS: (SEE ON MICROFICHE). EACH CAST IRON WAS HEATED IN A VACUUM FURNACE TVV-4 TO 1000DEGREES AT 1 TIMES 10 NEGATIVE PRIME4 TORR, THEN THE FURNACE WAS FILLED WITH HE AND THE CAST IRON MELTED AND HELD 10 MIN AT 1800DEGREES. THE CHEM. COMPN. AFTER SUPERHEATING IN HE PRACTICALLY DID NOT CHANGE; HOWEVER, THE OTHER ABOVE MENTIONED PROPERTIES AND STRUCTURAL COMPONENTS UNDERWENT CONSIDERABLE CHANGE. THE AMT., DISTRIBUTION, AND SHAPE OF GRAPHITE INCLUSIONS CHANGED VERY VARIEDLY DEPENDING ON THE KIND OF CAST IRON. THE AMT. OF PEARLITE DECREASED IN THE 1ST CAST IRON FROM 80 TO 30PERCENT, IN THE 2ND FROM 98 TO 59PERCENT, AND IN THE 3RD FROM 90 TO 20PERCENT. ALSO THE DISTRIBUTION AND SIZE OF PARTICLES CHANGED VARIOUSLY DEPENDING ON THE PARTICULAR CAST IRON. PHOSPHIDE EUTECTIC REMAINED LARGELY UNCHANGED. MICROHARDNESS OF PEARLITE AND FERRITE DECREASED FROM 178-231 TO 167-174, AND FROM 95-182 TO 68.1-89.4 KG-MM PRIME2, RESP. THE AMT. OF GASES DECREASED PRINCIPALLY ON ACCOUNT OF THE ELIMINATION OF O AND N. THE AMT. AND COMPN. OF NONMETALLIC INCLUSIONS UNDERWENT CONSIDERABLE CHANGE WHICH VARIED GREATLY FROM ONE KIND OF CAST IRON TO THE OTHER. THE OBSD. CHANGES DEPENDED PRIMARILY ON THE SOURCE (HISTORY) AND COMPN. OF A GIVEN CAST IRON.

UNCLASSIFIED



USSR

GLADYSHEV, V. A., KATSAUROV, L. N., MOROZ, Ye. M., NECHAYEVA, L. P.

"The Focusing of a Beam of Ions with Drift in a Heterogeneous Magnetic Field"

Moscow, Tr. Fiz. Instituta imeni P. N. Lebedev. Vol 53, 1971, pp 226-238.

Abstract: The drift of ions across the gradient of a magnetic field can be used in the performance of external injection into a cyclotron by directing the ions so that the beam drifts along the boundary of one of the sectors of the cyclotron to the central area. This work clarifies the nature of the trajectories of ions in this drift and studies problems related to the focusing of the beam. The motion of particles in the median plane of a magnet is studied, and it is considered that the system of coordinates is rectangular, and the field is a function of one coordinate only. In spite of these simplifying assumptions, a good deal of necessary information is produced concerning the nature of the trajectories during drift.

1/1

1/3 - 024 UNCLASSIFIED PROCESSING DATE--20NGV70  
TITLE--AURORAL PROTONS AND RESONANCE CONCEPT OF SUBSTORMS -U-

AUTHOR--(05)--GALPERIN, YU.I., GLADYSHEV, V.A., GUREVICH, A.V., KUZMIN,  
A.K., PENLMAREV, YU.N.  
CCOUNTRY OF INFO--USSR

SOURCE--MOSCCW, KOSMICHESKIYE ISSLEDOVANIYA, VOL VIII, NO 3, 1970, PP  
457-460  
DATE PUBLISHED-----70

SUBJECT AREAS--ATMOSPHERIC SCIENCES, ASTRONOMY, ASTROPHYSICS

TOPIC TAGS--AURORA, PROTON, MAGNETOSPHERE, ELECTRIC FIELD, SOLAR WIND,  
GEOMAGNETIC STORM, PROTON RESONANCE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAME--3005/0508

STEP NO--UR/0293/70/0C8/003/0457/0460

CIRC ACCESSION NO--AP0132711

UNCLASSIFIED

2/3 024

UNCLASSIFIED

PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0132711

ABSTRACT/EXTRACT--(U) GP-O- ABSTRACT. THE AUTHORS PROPOSE A "RESONANCE" CONCEPT OF THE APPEARANCE OF A SUBSTORM. IT CAN BE SUMMARIZED AS FOLLOWS: 1) THERE IS A MORE OR LESS STATIONARY QUASITRAPPED COMPONENT OF AURORAL PROTONS (AND POSSIBLY ELECTRONS) WITH A CHARACTERISTIC ENERGY OF ABOUT 10 KEV, HAVING A STRUCTURELESS "BACKGROUND" SPACE DISTRIBUTION. 2) THIS CHARACTERISTIC ENERGY OF AURORAL PARTICLES IS THE "RESONANCE" ENERGY OF QUASITRAPPED PROTONS OF THE RING CURRENT AND AURORAS. 3) IT IS POSTULATED THAT THERE IS AN ACCUMULATION OF THE RESONANCE COMPONENT IN THE EVENING AND NIGHTTIME REGIONS OF THE "SACK" AS A RESULT OF THE ASYMMETRICAL INJECTION OF THESE PARTICLES INTO QUASITRAPPED TRAJECTORIES, THE APPEARANCE OF A RING CURRENT AS A RESULT OF THIS ASYMETRY, AND AS A RESULT, THE GENERATION OF A LARGE SCALE SELF CONSISTENT ELECTRIC FIELD IN THE MAGNETOSPHERE. 4) IT IS POSTULATED THAT THE INCREASE IN DENSITY OF RESONANCE PARTICLES WITH THEIR ACCUMULATION IN THE REGION OF THE "CUSP" OR "SACK" ABOVE SOME CRITICAL VALUE GIVES RISE TO THE PHENOMENON OF A "MAGNETOSPHERIC EXPLOSION," A SUBSTORM, AND SUCH A PROCESS CAN BE REPEATED WITH CONTINUATION OF "PUMPING" OF THE MAGNETOSPHERE WITH RESONANCE PARTICLES. 5) IT IS POSTULATED THAT THERE IS A SELECTIVITY OF THE REACTION OF THE EARTH'S MAGNETOSPHERE TO THE APPEARANCE OF PARTICLES WITH ENERGIES CLOSE TO "RESONANCE" IN THE SOLAR WIND FLOWING AROUND IT.

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PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0132711

ABSTRACT/EXTRACT--6) IT IS POSTULATED THAT THE PHENOMENON OF A LAG IN MAGNETIC STORMS IN COMPARISON WITH THE ACTIVE HELIOPHYSICAL PROCESSES RESPONSIBLE FOR THEM IS DETERMINED BY THE TIME OF INTERPLANETARY SPACE PROPAGATION OF THAT COMPONENT OF A "CORPUSCULAR STREAM" EJECTED FROM THE SUN WHICH IS RESPONSIBLE FOR "RESONANCE" IN THE EARTH'S MAGNETOSPHERE. THIS CONCEPT DOES NOT PRECLUDE PROCESSES LEADING TO THE APPEARANCE OF TYPICAL SHARPLY DEFINED AURORAL ZONES, USUALLY SITUATED ALONG THE AURORAL OVAL AND CAUSED BY THE INJECTION OF PARTICLES WITH A CHARACTERISTIC ENERGY 1-5 KEV AND HIGH ENERGY PARTICLES (UP TO 10 PRIME2 -10 PRIME4 KEV), WHOSE INTERPRETATION EVIDENTLY REQUIRES A DETAILED EXAMINATION OF OSCILLATORY AND OTHER COLLECTIVE PROCESSES IN MAGNETOSPHERIC PLASMA.

UNCLASSIFIED

Acc. Nr.: AP0042570Ref. Code: UR0293

JPRS 50162

Study of Geoactive Corpuscles and Photoelectrons

(Abstract: "Study of Geoactive Corpuscles and Photoelectrons on the 'Kosmos-261' Satellite," by A. D. Bolyunova, M. L. Bragin, Yu. I. Gal'perin, V. A. Gladyshev, N. V. Dzhordzhio, G. N. Zlotin, I. N. Kiknadze, R. A. Kovrazhkin, T. M. Mulyarchik, Yu. N. Ponomarev, V. V. Temnyy, N. I. Fedorova, Yu. P. Shilyayev, F. K. Shuyskaya and R. V. Shulenina; Moscow, Kosmicheskiye Issledovaniya, Vol VIII, No 1, 1970, pp 104-136)

The artificial earth satellite "Kosmos-261" was used in a study of low-energy geoactive corpuscles and fresh photoelectrons and their interaction with the earth's upper atmosphere. The satellite was launched on 30 December 1968. Orbital inclination to the equator was 71°, so that for a relatively long time it moved almost along a tangent along the auroral zone over the Soviet Far North, making it possible to increase the volume of simultaneous measurements from the satellite and from ground observatories. The storage regime made it possible to extend continuous measurements for periods of several revolutions, including passes over the auroral zones in the Arctic and Antarctic and over the polar caps as far as invariant geomagnetic latitudes 82-85°. During the initial period the satellite apogee was at 670 km and perigee was at 217 km, but it finally

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burnt up upon entering into the dense layers of the atmosphere on 12 February 1969 after making 857 revolutions of the earth. The experiment lasted 53 days. The orbit was such that in the northern hemisphere middle and high latitudes the satellite moved below or close to the maximum of the F-region so that ionospheric electron density along its trajectory and its variations could be determined in a number of regions on the basis of measurements by ground ionospheric stations. The period of the experiment included both quiet periods and those with strong disturbances. The experiment was conducted under the "Program of Cooperation Among Socialist Countries in the Field of Space Research and Peaceful Use of Space." Ground measurements were made in Bulgaria, Hungary, East Germany, Poland, Rumania, USSR and Czechoslovakia. Observatories and special expeditionary stations in the USSR participated: in Yakutia, the Far North, Siberia and middle latitudes. The article cited below is divided into four parts: 1) Description of Experiment; 2) Measurement of Low-Energy Electrons; 3) Measurement of Low -Energy Ions; 4) Measurements of Charged Particles with Intermediate and High Energies. Parts 2)-4) are essentially independent articles and are abstracted separately.

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Acc. Nr.: AP0042569

Ref. Code: UR0293

JPRS 52162

Measurement of Low-Energy Ions

(Abstract: "Measurement of Low-Energy Ions," by Yu. I. Gal'perin, V. A. Gladyshev, I. D. Ivanov, I. N. Karpinskiy, T. M. Mulyarchik, B. V. Polenov, V. V. Temnyy, B. I. Khazanov, A. V. Shifrin and F. K. Shuyskaya; Moscow, Kosmicheskiye Issledovaniya, Vol VIII, No 1, 1970, pp 120-126)

[Note: This is part of a sectionalized article "Study of Geoactive Cor-puscles and Photoelectrons on the Satellite 'Kosmos-261'," Kosmicheskiye Issledovaniya, Vol VIII, No 1, 1970, pp 104-136]

The RIP-801 low-energy ion spectrometer is described; it was used on the "Kosmos-261" satellite for measuring ions in the range 0.04-8 keV. It is a modulation trap with magnetic protection of the ring collector; this suppresses the currents of secondary electrons and photoelectrons from the collector. The ion flux is modulated by a voltage in the form of a rectangular wave with a frequency of 300 cps and voltage amplitudes of 0.5 and 2 kV over threshold voltages from 0.04 to 6 kV. The electric current of the central collector and the positive current of the ring collector are measured. This paper gives the first results of measurements on the "Kosmos-261" satellite. In regions close to the auroral zone it is common to register fluxes of ions with energies of several keV, at-

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taining  $10^7$  ions $\cdot$ cm $^{-2}$  $\cdot$ sec $^{-1}$ keV $^{-1}$ . After midnight these particles are situated in the northern hemisphere near the southern boundary of the region of injection of electrons in the form of a "hydrogen arc." In addition, in the southern and northern polar caps in the region of invariant latitudes 70-80° ions were registered simultaneously with soft electrons in the so-called "second" or "soft" auroral zone. The ion energy spectra in the northern hemisphere (nighttime, altitude about 220 km) and in the southern hemisphere (daytime, altitude about 600 km) are different. In the northern auroral zone the spectrum has a pronounced maximum in the region 1.5-2 keV, whereas in the southern auroral zone and in the south pole cap the spectrum in the region 0.04-8 keV is rather flat (without taking into account the charge exchange of protons during passage through the atmosphere). The pitch-angle distribution usually has a maximum near 70°. The authors given an example of an ion intensity burst in the low latitudes over the USSR at  $L \approx 2$ .

19760550



UDC 669.791.5 + 543.492

USSR

GLADYSHEV, V. P., Institute of Chemical Sciences, Academy of Sciences, KazSSR,  
Alma-Ata

"Trivalent Arsenic Ions Interactions with Mercury in Chloride and Bromide  
Solutions"

Alma-Ata, Izvestiya Akademii Nauk KazSSR, Seriya Khimicheskaya, No 1, Jan-  
Feb 72, pp 68-69

Abstract: Studying the mechanism of arsenic reduction on a mercury electrode, the interactions of mercury with trivalent arsenic ions in HCl and HBr solutions were investigated. In the concentration range 0.01-5 M HCl the half-wave potential shifts with the increase of acid concentration; this is due to the transition of arsenite ions to the trivalent arsenic ion, which reduces faster on the mercury cathode. At concentrations higher than 4M, the first arsenic wave coincides with the anode wave of the mercury oxidation, registering as a combined anode-cathode wave. As the concentration of HCl is increased, the potential of the anode solution of mercury drops, until at the 4M level it is the same as the potential of the reduction of arsenic. Analogous behavior is observed in HBr solutions. The reduction process follows a first order kinetic equation. The reduction rate increases in the order  $\text{HCl} < \text{HBr}$

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USSR

GLADYSHEV, V. P., Izvestiya Akademii Nauk KazSSR, Seriya Khimicheskaya, No 1, Jan-Feb 72, pp 68-69

< HI. This process may be used for the separation of arsenic from other metals. In 6M HCl solutions arsenic (III) may be quantitatively separated from bismuth (3), antimony (3) and antimony (5), germanium (2) and germanium (4), tin (2) and tin (4) and other metals.

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- 13 -

Acc. Nr:

A70048313

Abstracting Service:

CHEMICAL ABST. 5/70

Ref. Code:

4R 0020

95994a Effect of the supporting electrolyte on the formation of finely divided precipitates during the reduction of metals at a mercury electrode. Geinrikhs, K. Ya.; Babkin, G. N.; Kozlovskii, M. T.; Gladyshev, M. P. (Inst. Khim. Nauk, Alma-Ata, USSR). *Dokl. Akad. Nauk SSSR* 1970, 190(1), 135-7 [Phys Chem] (Russ). The effect of the supporting electrolyte on the electrode position of finely divided Cd onto a still Hg electrode was studied by measuring polarization ( $\eta$ ) in  $\text{ClO}_4^-$  solns. of different concn. contg.  $0.5N \text{ Cd}^{2+}$ . At pH 6.5, the  $\eta$  values were independent of the nature of the anions ( $\text{SO}_4^{2-}$ ,  $\text{Cl}^-$ , or  $\text{ClO}_4^-$ ). In each case, at the limiting c.d., the finely divided Cd was formed; vibrating the electrode caused rapid dissolu. of the Cd into the Hg. Increasing the  $\text{NaClO}_4$  concn. increased the  $\eta$  and decreased the limiting c.d. At concn.  $> 0.5M \text{ NaClO}_4$ , the voltage oscillated and Na amalgam was formed during these oscillations. At higher c.d.s., Cd was chem. pptd. by the amalgam to form the powd. Cd. The ability to form powd. Cd decreased from  $\text{Li}^+ > \text{Na}^+ > \text{K}^+ > \text{Cs}^+$ . The limiting c.d. for Cd redn. was not a function of pH. The reason for the finely divided deposits was not the passivating action of  $\text{OH}^-$ .

S. G. Meibuhr

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1/2 009 UNCLASSIFIED PROCESSING DATE--16OCT70  
TITLE--AMALGAMATION OF VERY SMALL AMOUNTS OF POLONIUM WITH MERCURY -U-

AUTHOR--(03)-GLADYSHEV, V.P., YENIKEYEV, R.SH., NAURYZBAYEV, M.K.

COUNTRY OF INFO--USSR *G*

SOURCE--RADIOKHIMIYA 1970, 12(1), 195-7

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--AMALGAMATION, POLONIUM, MERCURY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FAME--1996/0382

STEP NO--UR/0186/70/012/001/0195/0197

CIRC ACCESSION NO--AP0118051

UNCLASSIFIED

2/2 009

UNCLASSIFIED

PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AP0118051

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. MINUTE AMTS. OF PRIME 120 PO (OF THE ORDER OF 19 PRIME NEGATIVE 12 MOLE-1.) WERE EXTD. QUANT. FROM 0.1-6.0N HCL OR HNO SUB3 SOLNS. BY AGITATION OF THE SOLN. FOR 5-10 MIN WITH METALLIC HG. AT 20DEGREES AND A HG:SOLN. VOL. RATIO OF 1:10; THE EXTN. FROM N HI AND HBR SOLNS. WAS ALSO NEARLY QUANT., BUT THE DEGREE OF EXTN. FROM N H SUB2 SO SUB4 OR HCL O SUB4 SOLNS. WAS SIMILAR TO 70PERCENT AND DECREASED TO SIMILAR TO 20PERCENT WHEN A SMALL AMT. (0.01 MOLE-1.) OF THE DI-NA SALT OF EDTA WAS ADDED TO THE SOLN.

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Acc. Nr. **AP0053893** - Abstracting Service:  
CHEMICAL ABST. 6/70

Ref. Code

**4R0035**

117384f Polarographic determination of mercury, antimony, and arsenic in sulfide-alkaline solutions. Gladyshev, V. P.; Dzhumashev, A. (Kirgiz State Univ., Frunze, USSR). *Zh. Anal. Khim.* 1970, 25(1), 189-92 (Russ). Hg, Sb, and As can be detd. polarographically in sulfide-alk. solns. and As and Hg and Sb and Hg can be detd. in the presence of each other by using 0.25M NaOH with 0.25M Na<sub>2</sub>S as the electrolyte. To a sample soln. (2-5 ml) contg. 1.5 mg of the element to be detd., add 15 ml of the electrolyte, then remove O with 5 ml of a satd. Na<sub>2</sub>SO<sub>3</sub> soln., and dil. to 25 ml with H<sub>2</sub>O. Det. Hg, Sb, and As polarographically at  $E_{1/2} = -0.9, -1.46, \text{ and } -1.6 \text{ V, resp.}$

Chaim Weiner

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18

GLADYSHEV, YE. N.

CHEMICAL TRANSFORMATION

SINGLE-ELECTRON TRANSFER AND CHEMICAL TRANSFORMATIONS  
(Conference in Rostov-on-Don)

[Article by Candidate of Chemical Sciences Z. V. Todroz; Moscow, Voenik Akademii Nauk SSSR, Russian, No 9, September 1973, pp 107-100]

A conference on the role of electron transfers in chemical reactions was held in Rostov-on-Don on 22-25 May. It was organized by the Northern Caucasus Scientific Center of the Higher School; about 40 reports were presented. Participants of the conference were the leading chemical institutes of the High-Leningrad and Gorkiy universities, and also Rostov-on-Don, Moscow.

Chemical reactions are usually regarded as the rupture and formation of bonds, that is, the rearrangement of the structure of a molecule. It is now considered, however, that the transfer of electrons from one of the reacting molecules to the other. The study of that stage, which has become possible through the use of new instrumental methods of investigation, especially of electron paramagnetic methods of investigation, since, expands concepts of the reaction mechanism as a sequence of elementary stages known to us.

As a result of electron transfer new particles appear, not known to organic chemistry of the past. The properties of these products were examined in a number of reports. Hemoglobin, cytochrome C and other enzymes with Fe(II) after electron transfer into the state Fe(III) but the protein part still retains its previous configuration (N. M. Davydov). The transformation of 4-alkyl-4-nitro-cis-stilbene into an anion-radical is accompanied by complete cis-trans-isomerization. Destruction of the symmetry of the molecule leads to establishment of equilibrium 4-nitro-cis-stilbene in the presence of electron transfer gives a mixture

- 143 - JAS 60461, 30 Nov 73

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10 Nov 1973

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of anion-radicals of cis- and trans-alkenes (Z. V. Tokmat, in the reports of S. P. Solodovnikov and N. I. Tsvetkova, it was shown that the properties of the products of electron transfer are determined not only on the distribution of electrons over the molecule but also on the entry of these products into the complex of the ionic associates).

Triethygermyl derivatives of lithium or potassium, as well as benzophenone, giving alcohols of triethygermyl-substituted benzophenone, react in benzene or hexane with ethylmagnesium chloride, giving a completely different product forms in benzene, in hexamethylphosphoride, and in diethylmagnesium chloride. In hexamethylphosphoride, which reacts further according to a scheme of single-electron transfer. Bimetallic organic compounds such as bis-(triethygermyl)-mercury or bis-(triethygermyl)-cadmium are capable of participating in electron transfer in non-polar solvents of the type of benzene, if a sufficiently strong acceptor, for example tetracyanoquinodimethane, is used (Academician A. A. Kazuyev and G. A. Abakumov).

V. I. Kampe and O. Yu. Okhlobystin revealed the general mechanism of the oxidation of organometallic compounds, according to which a single electron is torn away from those derivatives and they simultaneously decompose into an organic radical and the cation of the metal. The radicals, if they do not react chemically, give off still another electron, being oxidized to carbocations. The reaction ends with the stage of stabilization of these cations, for example, through their reaction with molecules of the solvent. The establishment of such a mechanism explains the formation of butyl acetate as the main product of the oxidation of butylmercuracetate by lead tetraacetate in acetic acid. Aliphatic mercury chlorides under the same conditions give ethers of acetic acid, perfluorine and olefins. The formation of hydrocarbons in that reaction also indicates the existence of radicals as intermediates of the oxidation.

The ability of organomercuric compounds to act as electron donors was shown on the example of reactions of diaryl mercury with tetrachloroethane (G. A. Shvovlev, I. P. Melitskaya, and A. N. Koshin, I. P. Melitskaya, and V. I. Slonko). The results agree with the hypothesis that in the first stage of the reaction the cation-radical of diaryl mercury and the radical of tetrachloroethane are formed. The latter forms through electron transfer either to the anion-radical of diaryl mercury or to the tetrachloroethane. The cation-radical of diaryl mercury decomposes, giving the highly reactive radical Ar<sup>+</sup>. That radical reacts insignificantly with the lowly reactive



USSR

UDC 547.1'13

YERMOLAYEV, V. I., SOROKIN, YU. A., GLADYSHEV, YE. N., VYAZANKIN, N. S.,  
and RAZUVAYEV, G. A., Institute of Chemistry, Academy of Sciences USSR

"Triethyl(triphenylphosphine-  $\pi$ -cyclopentadienylnickel)germane"

Leningrad, Zhurnal Obshchey Khimii, Vol 41, No 8, Aug 71, p 1878

Abstract: Previously unknown triethyl(triphenylphosphine-  $\pi$ -cyclopentadienylnickel)germane was synthesized by the authors by two new methods:

1. An equimolar mixture of  $\pi$ -C<sub>5</sub>H<sub>5</sub> (C<sub>6</sub>H<sub>5</sub>)<sub>3</sub>P NiCl and bis(triethylgermyl)-mercury is allowed to stand in 25 ml benzene for one hour at  $\sim 20^\circ$ . After separation of the mercury the solvent is boiled down under vacuum. The residue is crystallized twice from hexane at  $-75^\circ$ .
2. The same compound is obtained by adding 7.7 g bis(triethylgermyl)-mercury to a solution of 2.9 g nickelocene and 3.9 g triphenylphosphine in 50 ml benzene (molar ratio of reactants 1:1:1) and heating the mixture to  $40^\circ$  (70 hours). The mercury is separated from the mixture and the product isolated, as above.

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USSR

UDC 530.12:531.18+538.3

GLADYSHEV, Yu. A.

"A Method of Constructing the Solution of a System of Equations of Electrostatics in the Case of Continuous Electric Charge Distribution"

Uch. zap. Tul'sk. gos. ped. in-t. Fiz.-tekhn. n. (Scientific Notes of Tul' State Pedagogical Institute of Physical and Technical Sciences), 1970, vyp. 2, pp 3-9 (from RZh-Fizika, No 2, Feb 71, Abstract No 2B125)

Translation: A method is proposed for finding the solutions of the Poisson equation using the apparatus of quaternion calculus. This procedure, which turns out to be effective for cases of polynomial dependence of the charge distribution on the coordinates, was demonstrated in a number of problems with ellipsoidal, plane-parallel, and axial symmetry of the charge distribution.

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1/2 012 UNCLASSIFIED PROCESSING DATE--30OCT70  
TITLE--REACTIONS OF AZIRIDINES WITH RING EXPANSION -U-  
AUTHOR-(03)-GLADYSHEVA, F.N., SINEOKOV, A.P., ETLIS, V.S.  
COUNTRY OF INFO--USSR  
SOURCE--USP. KHIM. 1970, 39(2), 235-58  
DATE PUBLISHED-----70  
  
SUBJECT AREAS--CHEMISTRY  
  
TOPIC TAGS--CRYSTALLIZATION, ISOMERIZATION, ETHYLENE OXIDE, INTERMOLECULAR  
COMPLEX, ORGANIC NITROGEN COMPOUND, CYCLIZATION  
  
CONTROL MARKING--NO RESTRICTIONS  
  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAE--1992/1659 STEP NO--UR/0074/70/039/002/0235/0258  
CIRC ACCESSION NO--AP0112653  
UNCLASSIFIED

2/2 012

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0112653

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A REVIEW WITH 88 REFERENCES THROUGH 1968, DEALING WITH INTERMOL. AND INTRAMOL. CYCLIZATION REACTIONS OF AZIRIDINES, IN TERMS OF REACTIONS WITH CARBONYL COMPOS., CO SUB2 AND ITS ANALOGS ISOMERIZATION REACTIONS OF AZIRIDINES AND REACTIONS WITH ETHYLENE OXIDE AND NITRONES.

UNCLASSIFIED

USSR

UDC: 681.3

MAKSIMEY, I. V., GLADYSHEVA, G. I.

"Organizing Measurement of the Operational Characteristics of Computers at the Computer Center of the Siberian Department of the Academy of Sciences of the USSR"

V sb. Mat. obespecheniye ETsVM. Vyp. 4 (Mathematical Provision of Digital Computers--collection of works, No 4), Kiev, 1970, pp 74-89 (from RZh-Kibernetika, No 7, Jul 71, Abstract No TV682)

Translation: The authors describe the organization of systematic collection of operational characteristics of the computers at the Computer Center, the procedure for measuring these characteristics, the composition of program provisioning and the method of analyzing characteristics. The results of analysis of the operational characteristics of the M-20 computer gave a basis for drawing conclusions on the structure of this digital computer, on test effectiveness, and the effectiveness of auxiliary services and operation of external devices. A comparison of four computers is taken as an example to show that very little attention

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MAKIMOV, I. V., GLADYSHEVA, G. I., Mat. obespecheniye ETsVM. Vyd. 4,  
Kiev, 1970, pp 74-89

is usually given to the quality of preventative maintenance work; a strong correlation dependence is observed between digital computer structure, skill of servicing personnel and the quality of preventative maintenance. A. Doroshenko.

USSR

UDC 621.371.029.55

VSEKHOSVYATSEAYA, I. S., GLADYSHEVA, M. V., GORSHEKOVA, E. Z.,  
DUMBRAVA, Z. F., YEROFEEV, N. M., ZOLOTAREV, A. Ye., KIYANOVSKIY,  
M. P., MAL'SHAKOV, V. N., NOVIKOVA, L. N., PEZHEMSKAYA, M. D.,  
PODDEL'SKIY, N. P., and RUDYKA, L. V.

"Some Results of Investigations Into Tilted Short-Pulse Sounding  
in Ranges up to 400 km Long"

Moscow, V sb. X Vses. konf. po rasprostr. radiovoln. Tezisy dokl.  
Sekts. 1 (Tenth All-Union Conference on the Propagation of Radio  
Waves; Report Theses; Section 1--collection of works) "Nauka,"  
1972, pp 347-348 (from RZh--Radiotekhnika, No 10, 1972, Abstract  
No 10A333)

Translation: Results are given of the selection of optimal operat-  
ing frequencies for ranges of varying extent, the identification  
of propaganda modes, and the determination of the spectral char-  
acteristics of the fluctuations in signal level. A. L.

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019

UNCLASSIFIED

PROCESSING DATE--20NOV70

TITLE--THE EFFECT OF TEMPERATURE ON FREQUENCY SPECTRA IN MYELINATED  
AFFERENT A DELTA FIBERS IN STIMULATION OF SKIN MECHANORECEPTORS -U-  
AUTHOR--GLADYSHEVA, D.S.

COUNTRY OF INFO--USSR

SOURCE--BYULLETEN' EKSPERIMENTAL'NY BIOLOGII I MEDITSINY, 1970, VOL 49, NR  
6, PP 12-14  
DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--SKIN PHYSIOLOGY, SENSORY PHYSIOLOGY, ELECTROPHYSIOLOGY,  
BIOLOGIC THERMAL EFFECT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAME--3004/G701

STEP NO--UR/0219/70/049/006/0012/0014

CIRC ACCESSION NO--AP0131300

UNCLASSIFIED



2/2 019

UNCLASSIFIED

PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0131300

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. REDUCTION OF THE TEMPERATURE INFLUENCED THE FREQUENCY SPECTRA OF AFFERENT IMPULSATION IN A DELTA FIBERS IN SKIN MECHANORECEPTORS IN ITS DISTENTION. THE IMPULSATION FREQUENCY DETERMINED BY THE METHOD IN COUNTER IMPULSES WAS REDUCED IN 10-16DEGREES DOWN TO 20-30 IMP PER SEC IN COMPARISON WITH 50-60-IMP PER SEC AT 32-36DEGREES. ELEVATION OF THE SKIN TEMPERATURE ABOVE NORMAL VALUES ALSO LEADS TO A SHIFT OF FREQUENCY SPECTRA TOWARDS DIMINUTION.

FACILITY: DEPARTMENT OF BIOCYBERNETICS OF THE INSTITUTE OF APPLIED MATHEMATICS AND CYBERNETICS AT N. I. LOBACHEVSKY GORKY STATE UNIVERSITY.

UNCLASSIFIED

USSR

UDC 546-655'74'28:548.3

BODAK, O. I., MIS'KIV, M. G., TYVANCHUK, A. T., KHARCHENKO, O. I., and  
GLADYSHEVSKIY, YE. I., L'vov State University imeni Ivan Franko

"System Cerium--Nickel--Silicon in the Region 33.3 - 100 at. % Ce"

Moscow, Neorganicheskiye Materialy, Vol. 9, No 5, May 73, pp 864-866

Abstract: A study is made of the phase ratio of the system Ce-Ni-Si in the region 33.3 - 100 at. % Ce. A complete isothermal cross section of the diagram of state is constructed. The area of homogeneity and the crystalline structure of compounds formed in alloys in the interval 33.3 - 100 at. % Ce are determined.

1/1

- 73 -

USSR

UDC [537.226 + 537.311.33] : [537 + 535]

BODAK, O. I., GLADYSHEVSKIY, Ye. I.

"New Semiconductor Silicides of Rare Earth and Alkali Earth Metals"

Uzhgorod, V sb. Nekotor. vopr. khimii i fiz. poluprovodnikov slozhn. sostava (Some Problems of the Chemistry and Physics of Complex Semiconductors -- collection of works), 1970, pp 105-109 (from RZh-Fizika, No 11, 1971, Abstract No 11E953)

Translation: The existence is established and the crystalline structure determined for a series of triple silicides and germanides of R-M-Si (or Ge), where R is a rare earth metal or an alkali metal, and M is a transitional metal of the fourth period (Cu or Al). The absolute value for the  $\sigma$  of these compounds is  $10^3$ - $10^4$  ohm $^{-1}$ cm $^{-1}$ ; a reduction in  $\sigma$  is noted with an increase in the Si content of the melts. The variations of  $\sigma$  and the thermal emf with temperature are investigated. N. B.

1/1

1/2 028 UNCLASSIFIED PROCESSING DATE--16OCT70  
TITLE--CRYSTAL STRUCTURE OF THE X PHASE OF A MANGANESE COBALT SILICON  
SYSTEM -U-  
AUTHOR-(03)-YARMOLYUK, YA.P., KRIPYAKEVICH, P.I., GLADYSHEVSKIY, YE.I.  
COUNTRY OF INFO--USSR  
SOURCE--KRISTALLOGRAFIYA 1970, 15(2), 268-74  
DATE PUBLISHED-----70  
SUBJECT AREAS--MATERIALS, PHYSICS  
TOPIC TAGS--MANGANESE ALLOY, COBALT ALLOY, SILICON ALLOY, CRYSTAL  
STRUCTURE, ZINC ALLOY, ALUMINUM ALLOY, ZIRCONIUM ALLOY, INTERMETALLIC  
COMPOUND, METAL SINGLE CRYSTAL  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRA--1995/0910 STEP NO--UR/0070/70/015/002/0268/0274  
CIRC ACCESSION NO--AP0116420  
UNCLASSIFIED

2/2 028

UNCLASSIFIED

PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AP0116420

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE STRUCTURE WAS DETD. FOR A SINGLE CRYSTAL OF THE X PHASE OBTAINED FROM AN ALLOY WITH MN 42.8 AND SI 14.3 AT. PERCENT OBTAINED IN AN ARC FURNACE AND TEMPERED AT 800DEGREES FOR 480 HR. THE CRYSTAL HAS THE FOLLOWING PARAMETERS: A 12.47, B 15.50, AND C 4.76 ANGSTROM; Z EQUALS 74, AND THE SPACE GROUP IS PNNM. THE AT. PARAMETERS WERE REFINED BY 2 DIMENSIONAL FOURIER SYNTHESIS; R EQUALS 15.5 PERCENT FOR 135 OBSD. HKO REFLECTIONS. THE COMPN. IS GIVEN BY R SUB14 X SUB23 IN WHICH R ARE ATOMS WITH COORDINATION NOS. OF 16, 15, AND 14 (MN) AND X ARE ATOMS WITH A COORDINATION NO. OF 12 (MAINLY CO AND SI). THE STRUCTURE CONSISTS OF FRAGMENTS OF STRUCTURES OF THE ZR SUB4 AL SUB3 AND MGZN SUB2 TYPE AND IT IS A MEMBER OF THE HOMOLOGOUS SERIES ZR SUB4 AL SUB3-MGZN SUB2. FACILITY: L'VOV. GOS. UNIV., LVOV, USSR.

UNCLASSIFIED

AA0040709

Glaagolev, L.N.

UR 0482

3-70

Soviet Inventions Illustrated, Section I Chemical, Derwent,

236176 HYDRO-ANODIC MACHINING strips the allowance simultaneously right the way along the workpiece, shaping the conical sectors of the tool so that they run from the minimum allowance sectors to the sectors where the maximum allowance is required. What results is a series of exact conical and cylindrical sectors within the workpiece. To vary the type of surface produced, the cylindrical cathode tool is fed by the amount of the surfaces at varying speed (current alteration of current force and cathode speed together altered). This formula determines the parameters and routines for the different sectors:

$$G = \frac{S \Delta c(L_1 - \frac{l_0}{2})}{I V} ; S = \frac{I IV}{\Delta c(L_1 - \frac{l_0}{2})}$$

19750345

AA0040709

where  $G$  is the current strength in the machined sector;  $S$  the cathode speed in this sector;  $\Delta$  - metal removal;  $c$  the calculated perimeter of the anode;  $L_1$  the length of the cylindrical sector to be machined at the same time as the conical sector;  $l_0$  the length of the conical sector, and  $V$  - the electrochemical equivalent. As the cathode shaping edge approaches the start of the conical surface, current or tool feed are switched to the second schedule and this is maintained until the tool reaches the cylindrical sector, whereupon the schedule is switched back again. 23.2.67.  
as 1135153/25-8. GLAGOLEV, L.N., <sup>Y</sup>ESTROV, L.K.  
(12.6.69.) Bul.6/24.1.69. Class 45a. Int.Cl. G23b.

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2.

19750346

Acc. Nr. **APC049802** Abstracting Service:  
CHEMICAL ABST. 5-70

Ref. Code:

*UR0138*

*G*

101498k Rubber-to-plastic bonding in the vulcanization process. Glagolev, V. A.; Ilin, N. S.; Kornev, A. E.; Puzrin, B. S. (Mosk. ~~Int. Tekhnol. im. Lomonosova, Moscow, USSR~~). *Kauch. Rezina* 1970, 29(1), 30-2 (Russ.). Natural rubber and synthetic rubbers (Nairit, SKN-26, and SKI-3) were bonded to polyamide, polycarbonate films or glass cloth laminate surfaces with Leikonat (isocyanate adhesive). The bonding of these rubbers to polyethylene or polypropylene required the pretreatment of their surfaces with aq.  $\text{KMnO}_4$  soln. Diagrams show the changes of adhesion between these rubbers and polymers in the 20-140° range.

CPJR

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REEL/FRA  
19801724

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1/2 025 UNCLASSIFIED PROCESSING DATE--30OCT70  
TITLE--SCIENTIFIC WORK DONE IN THE PROBLEM LABORATORY OF THE RUBBER  
TECHNOLOGY DEPARTMENT OF THE M. V. LOMONOSOV INSTITUTE OF FINE CHEMICAL  
AUTHOR--(04)-KORNEV, A.YE., KAPLUNOV, YA.N., GLAGOLEV, V.A., BUKANOV, A.M.  
COUNTRY OF INFO--USSR  
SOURCE--KAUCH. REZINA 1970, 29(4), 39-42  
DATE PUBLISHED-----70  
SUBJECT AREAS--MATERIALS  
TOPIC TAGS--VULCANIZATION, FILLER, ELECTRIC CONDUCTIVITY, ELASTOMER,  
ADHESIVE, SCIENTIFIC R AND D, RUBBER  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAE--1997/0534 STEP NO--UR/0138/70/029/004/0039/0042  
CIRC ACCESSION NO--AP0119453  
UNCLASSIFIED

2/2 025

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0119453

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A REVIEW WITH 25 REFS. TOPICS  
INCLUDE THE INFLUENCE OF VARIOUS VULCANIZATION RECIPE INGREDIENTS AND  
FILLERS ON PROPERTIES OF RUBBERS, RESINOUS MIXTS., AND RESINS; ELEC.  
CONDUCTING ELASTOMERS; USE OF ELASTOMERS AS ADHESIVES; AND TECHNOL.  
PROCESSES SUCH AS RESIN REGENERATION. FACILITY: MOSK. INST.  
TONKOI KHIM. TEKHNOL. IM. LOMONOSOVA, MOSCOW, USSR.

UNCLASSIFIED

Acc. Nr: **AP0052333**

6

Ref. Code: **UR0238**

PRIMARY SOURCE: Fiziologichniy Zhurnal, 1970, Vol 16, Nr **2**,  
pp **190-196**

PARTICIPATION OF HYPOTHALAMUS IN THE REGULATION  
OF CONTENT AND CIRCULATION OF BLOOD AND LYMPH

P. D. Kharchenko, V. P. Glagolev, V. O. Tsibenko,

L. M. Ponomarenko, L. O. Smirnova

Department of Physiology, State University, Kiev

Summary

The effect of hypothalamus stimulation was investigated on the regional blood circulation, lymph stream rate and lymph content, on the physicochemical properties of blood and acetylcholine content in it.

The data obtained testify to the fact that, when stimulating hypothalamus, there appear not isolated reactions of one system or organ, but the whole complex of vegetative reactions and processes connected between themselves.

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19820919

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USSR

UDC 577.4

GLAGOLEV, V. V.

"On the Length of a Shortened Disjunctive Normal Form for Boolean Functions of Dimensionality 1"

V sb. Diskretn. analiz (Discrete Analysis -- collection of works), No 22, Novosibirsk, 1973, pp 29-33 (from RZh-Matematika, No 11, Nov 73, Abstract 11 V550)

Translation: The problem of the asymptotic behavior of the maximum length (that is, the number of members)  $s(n)$  of a shortened disjunctive normal form (dnf) of a Boolean function of  $n$  variables is still not solved. If we restrict ourselves to considering those functions for which the maximal boundaries have dimensionality 0, the corresponding problem is solved trivially:  $s_0(n) = 2^{n-1}$ . Here similar problem is solved for cases in which the

dimensionality of the maximal boundaries does not exceed 1. It is shown that  $s_1(n) \approx \frac{n}{3} 2^{n-1}$ .

Abstract by V. Khrapchenko.

1/1

- 79 -

USSR

UDC 620.17

GLAGOLEV, V. V., and LANIN, A. G.

"Estimating the Strength of Brittle Materials by the Diametral Compression Method"

V sb. Metody issled. tugoplavk, materialov (Methods of Studying Refractory Materials -- collection of works), Moscow, Atomizdat, 1970, pp 148-156  
(From RZhOMekhanika, No 12, Dec 70, Abstract No 12V1453, by Ye. A. Myakotin)

Translation: Methods of estimating strains for the case of tensile testing of brittle materials by the fracture technique are discussed. Results are presented from an experimental study of the effect that local indentation in the specimen-compressing surfaces contact zone has on strength in fracturing, and also of the effect of thickness and stiffness of inserts on strength in fracturing. The strength values obtained by the fracture technique in fracturing. The strength values obtained by the fracture technique upon diametral compression are shown to be 10-15% lower than the tensile strength values and 2-2.3 times lower than bending strength. Increasing specimen dimensions gives greater stability for the strength values obtained. A variation in the ratio of specimen diameter and length of the generatrix within the limits 1:4 to 1:0.26 does not markedly affect the resulting mean strength values. Bibliography: 41 entries.

1/1

UDC 669.721.5'884.013.8:620.193

USSR

GLAGOLEVA, A. M., CHUKHIN, B. D.

"Effect of Some Alloying Additives on the Corrosion Resistance of Mg-Li-System Alloys"

Metalloved. splavov legkikh met. -- V sb. (Physical Metallurgy of Alloys of Light Metals -- collection of works), Moscow, Nauka Press, 1970, pp 195-198 (from RZh-Metallurgiya, No 4, Apr 71, Abstract No 41756)

Translation: The corrosion resistance of binary, ternary, and higher complex-alloyed Mg-Li alloys with 5-6 and 10-14% Li and Al, Zn, Cd, Ce, Sn, Mn, and Si additives was investigated. The corrosion rate was estimated by the amount of  $H_2$  released in the hydrogen corrosion meter. It was demonstrated that the corrosion resistance of Mg-Li-alloys depends significantly on the chemical composition and, above all, on the Li content. The proposition of the possibility of creating Mg-Li-alloys with corrosion resistance on the level of series Mg-alloys is stated. There are 4 illustrations and an 8-entry bibliography.

1/1

USSR

UDC 669.721.017:620.193

GLAGOLEVA, A. M., and CHUKHIN, B. D.

"The Effect of Some Alloying Additions on the Corrosion Resistance of Alloys of the Mg-Li System"

Metallovedeniye Splavov Legkikh Metallov-Sbornik, Moscow, "Nauka", 1970, pp 195-199, resume

Translation: Results are presented of corrosion resistance investigations of binary, ternary, and more complexly alloyed magnesium-lithium alloys with 5%-6% and 10%-14% Li and additions of Al, Zn, Cd, Ce, Sn, Mn, and Si. The corrosion rate was estimated by the quantity of escaped hydrogen in the hydrogen corrosiometer. It is demonstrated that the corrosion resistance of magnesium-lithium alloys depends substantially on the chemical composition, and primarily on the lithium content. The hypothesis is expressed on the possibility of the creation of magnesium-lithium alloys with a corrosion resistance on the level of mass production magnesium alloys. Four figures, eight bibliographic references.

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1/2 019  
UNCLASSIFIED  
TITLE--EFFECT OF OXIDATIVE PHOSPHORYLATION UNCOUPLERS ON THE RELEASE OF  
ACETYLCHOLINE FROM NERVE ENDINGS -U-  
AUTHOR--GLAGOLEVA, I.M., LIBERMAN, YE.A., KHASHAYEV, Z.M.  
COUNTRY OF INFO--USSR  
SOURCE--BIOFIZIKA 1970, 15(1), 76-83  
DATE PUBLISHED-----70  
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES  
TOPIC TAGS--ACETYLCHOLINE, PHOSPHORYLATION, NERVE ENDING  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAE--1985/0362  
CIRC ACCESSION NO--AP0100849  
STEP NO--UR/0217/70/015/001/0076/0093  
UNCLASSIFIED



2/2 019

CIRC ACCESSION NO--AP0100849

UNCLASSIFIED

PROCESSING DATE--11SEP70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE EFFECTS OF VARIOUS OXIDATIVE PHOSPHORYLATION UNCOUPLERS WERE STUDIED ON THE MINIATURE END PLATE POTENTIALS IN FROG NEUROMUSCULAR JUNCTIONS. IN THE PRESENCE OF THESE COMPS. THE FREQUENCY INCREASED 2-3 ORDERS OF MAGNITUDE AND THE AMPLITUDE 2-3 FOLD. INCREASED CONC. OF EACH UNCOUPLER DECREASED THE TIME REQUIRED FOR THE FREQUENCY TO REACH A MAX. AND THE TIME FOR THE SURSEQUENT FALL IN FREQUENCY. THE EFFECTIVENESS OF THESE COMPS. ON THE MINIATURE END PLATE POTENTIAL DECREASED IN THE FOLLOWING ORDER: CARBONYL CYANIDE P-TRIFLUOROMETHOXYPHENYLHYDRAZONE, CARBONYL CYANIDE M-CHLOROPHENYLHYDRAZONE, TETRACHLORO, 2, TRIFLUROMETHYLBENZIMIDAZOLE, DIBOUMAROL, 2, 4, DINITROPHENOL, AND M-NITROPHENOL. THIS SERIES CORRESPONDED TO THE SEQUENCES OBTAINED DURING STUDY OF THE EFFECT OF THESE COMPS. ON MITOCHONDRIAL RESPIRATION AND ON THE MOBILITY OF ARTIFICIAL MEMBRANE PHOSPHOLIPIDS. THE DATA VERIFY A PREVIOUS HYPOTHESIS THAT THE RELEASE OF ACETYLCHOLINE FROM THE NERVE ENDINGS IS CONNECTED WITH ADHESION OF THE SYNAPTIC VACUOLES WITH THE NERVE ENDING MEMBRANE UNDER THE ACTION OF VAN DER WAALS FORCES. INCREASED CONC. OF CA PRIME2 POSITIVE IN THE PROTOPLASM IS DUE TO LIBERATION FROM THE MITOCHONDRIA DURING THE ACTION OF THE UNCOUPLERS AND LEADS TO SHIELDING OF THE SURFACE NEG. CHARGE OF THE MEMBRANE AND TO INCREASED ACETYLCHOLINE SECRETION.

UNCLASSIFIED

1/2 013 UNCLASSIFIED PROCESSING DATE--07OCT70  
TITLE--LIQUID PHASE EQUILIBRIUMS IN FURFURAL, WATER, METHYL ETHYL KETONE AND  
FURFURAL, WATER, DIISOBUTYL KETONE SYSTEMS -U-  
AUTHOR--(02)--KRUPATKIN, I.L., SLAGOLEVA, M.F. G  
COUNTRY OF INFO--USSR  
SOURCE--ZH. OBSHCH. KHIM. 1970, 40(2), 261-6  
DATE PUBLISHED-----70  
SUBJECT AREAS--CHEMISTRY  
TOPIC TAGS--PHASE EQUILIBRIUM, FURFURAL, WATER, METHYL ETHYL KETONE, PHASE  
DIAGRAM  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRA--1993/0202 STEP NO--UR/0079/70/040/002/0251/0266  
CIRC ACCESSION NO--AP0113141  
UNCLASSIFIED

2/2 013

UNCLASSIFIED

PROCESSING DATE--02OCT70

CIRC ACCESSION NO--AP0113141

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. DATA ON SOLY. OF FURFURAL, H SUB2  
O, AND MECDET SYSTEM WERE TABULATED AND SHOWN IN PHASE DIAGRAM FORM,  
USING D. AND N AS AUXILIARY CONSTS., TO DESCRIBE THE COMPONENT  
INTERACTION, AT 25DEGREES. THE PRESENCE OF A ME GROUP IN THE KETON  
COMPONENT INCREASED THE MUTUAL SOLY. OF BOTH LIQS. IN THE BINARY SYSTEM  
OF KETONE H SUB2 O, WHILE AN ISO RU GROUP IN THE KETONE COMPONENT SHOWS  
AN OPPOSITE EFFECT, IN COMPARISONS OF THE PRESENT DATA WITH EXISTING  
INFORMATION ON SIMILAR SYSTEMS WITH OTHER KETONES.

UNCLASSIFIED

Acc. Nr:

AF0049119

Abstracting Service:  
CHEMICAL ABST. 5/70

Ref. Code:

UR 0079

GLAGOLEVA M. F.

104510u Equilibrium of liquid phases in furfural-water-monohydric aliphatic alcohol systems. Krupatkin, I. L.; Glagoleva, M. F. (Kalinin. Politekh. Inst., Kalinin, USSR). *Zh. Obshch. Khim.* 1970, 40(1), 12-16 (Russ). Mutual soly. data were tabulated along with the values of  $n$  for the system of furfural,  $H_2O$ , and  $PrOH$  or iso- $PrOH$  at  $25^\circ$ . These are given on a triangular diagram. The system with iso- $PrOH$  is solutropic. In the systems of this type with lower  $ROH$ , the 1st 5 lower alcs. showed a regular change in the system with increased mol. wt. of  $ROH$ : the interaction with  $H_2O$  decreases and that with the aldehyde increases as  $R$  increases. G. M. Kosolapoff

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REEL/FRA  
19800925

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Acc. Nr: **A0049120** — Abstracting Service:  
CHEMICAL ABST. 5/70

Ref. Code:

**UR0079**

**G**

[ 104480j Equilibrium of liquid phases in furfural-water-butyl acetate and furfural-water-ethyl acetoacetate system. Krupatkin, I. L.; Glazoleva, M. F. (Kalinin. Politekh. Inst., Kalinin, USSR). *Zh. Obshch. Khim.* 1970, 40(1), 17-21 (Russ). Mutual soly. data were given in tabular and graphic forms for the systems of furfural-H<sub>2</sub>O-BuOAc and furfural-H<sub>2</sub>O-AcCH<sub>2</sub>CO<sub>2</sub>Et. The values of *n* for the systems were also reported. In both systems, the phase diagram had an area in which the layer formation occupied most of the total area. The conodes were found in a fan-shaped distribution toward the homogeneous binary system of furfural-ester. G. M. Kosolapoff

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REEL/FRA  
**19800926**

**7 nt**

Acc. Nr.

AP0045178

Abstracting Service:  
CHEMICAL ABST.

5-70

Ref. Code

UR0191

91217b Granulated copolymer of styrene with  $\alpha$ -methylstyrene. Yartsev, I. K.; Kirillova, E. I.; Glagoleva, Yu. A.; Vasil'eva, T. A.; Yartseva, E. E.; Vinogradov, G. V. (USSR). *Plast. Massy* 1970, (1), 41-3 (Russ). The title copolymer (I) was pelletized in a ED-2M disc extruder and a BE-40 screw extruder and then subjected to irradiation in the air (from a PRK-2 lamp) at 25-30°. I films were also subjected to thermal aging at 60-200° for 3,000 hr. Light and thermal aging data revealed that I was best processed in the disc extruder. The pelletized I exhibited superior physicomech. properties and similar (to the prepelletized I) lightfastness and thermal stability. CKJR

REEL/FRAME

19780078

GLAGOLEVA, Ye. G.

method of coordinates

NEW BOOKS OF 'NAKA' PUBLISHING HOUSE

[List: Moscow, Vestnik Akademii Nauk, Russian, Vol 61, No 9, September 1971, pp 140-142]

Physical, Mathematical, and Technical Sciences

Adaptive Systems. Collection of Scientific Papers on Adaptive Systems. Machine-Learning and Instrument-Making. Institute of Automatics. Academy of Sciences of the USSR. Moscow, 1971, 272 pages, 320 copies, 1 r 02 k.

Complex Systems. Collection of Scientific Papers on Complex Systems. Machine-Learning and Instrument-Making. Institute of Automatics. Academy of Sciences of the USSR. Moscow, 1971, 314 pages, 320 copies, 2 r 99 k.

Adaptive Systems. Collection of Scientific Papers on Adaptive Systems. Machine-Learning and Instrument-Making. Institute of Automatics. Academy of Sciences of the USSR. Moscow, 1971, 272 pages, 320 copies, 1 r 02 k.

Complex Systems. Collection of Scientific Papers on Complex Systems. Machine-Learning and Instrument-Making. Institute of Automatics. Academy of Sciences of the USSR. Moscow, 1971, 314 pages, 320 copies, 2 r 99 k.

Adaptive Systems. Collection of Scientific Papers on Adaptive Systems. Machine-Learning and Instrument-Making. Institute of Automatics. Academy of Sciences of the USSR. Moscow, 1971, 272 pages, 320 copies, 1 r 02 k.

Complex Systems. Collection of Scientific Papers on Complex Systems. Machine-Learning and Instrument-Making. Institute of Automatics. Academy of Sciences of the USSR. Moscow, 1971, 314 pages, 320 copies, 2 r 99 k.

Adaptive Systems. Collection of Scientific Papers on Adaptive Systems. Machine-Learning and Instrument-Making. Institute of Automatics. Academy of Sciences of the USSR. Moscow, 1971, 272 pages, 320 copies, 1 r 02 k.

1/2 028 UNCLASSIFIED PROCESSING DATE--30OCT70  
TITLE--MASS SPECTROMETRIC STUDY OF THE THERMAL DEGRADATION OF METHYL  
SUBSTITUTED STYRENE POLYMERS -U-  
AUTHOR-(02)-GLAGOLEVA, YU.A., REGEL, V.R.  
COUNTRY OF INFO--USSR  
SOURCE--VYSOKOMOL. SOEDIN, SER. A 1970, 12(4), 948-53  
DATE PUBLISHED-----70  
SUBJECT AREAS--CHEMISTRY, MATERIALS  
TOPIC TAGS--MASS SPECTROMETRY, THERMAL DEGRADATION, POLYSTYRENE RESIN,  
POLYMER, VINYL COMPOUND, TOLUENE, STYRENE, POLYMER DEGRADATION  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRA--2000/1687 STEP NO--UR/0459/70/012/004/0948/0953  
CIRC ACCESSION NO--AP0125308  
UNCLASSIFIED



2/2 028

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0125308

ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. THE MONOMER CONC. IN THE THERMAL DEGRADATION PRODUCTS (AT 300DEGREES) OF POLYSTYRENE, POLY(VINYLTOLUENE), POLY(ALPHA-METHYLSTYRENE), AND POLY(2,4-DIMETHYLSTYRENE) WAS DETD. BY MASS SPECTROSCOPY. THE DEGRADATION OCCURRED IN 2 STAGES: 1ST THE WEAK BONDS AND THEN THE MAIN POLYMER BONDS WERE BROKEN, REQUIRING SIMILAR TO 30 AND 50-60 KCAL-MOLE ACTIVATION ENERGY, RESP. FACILITY:

FIZ.-TEKH. INST. IM. IOFFE, LENINGRAD, USSR.

UNCLASSIFIED

UDC: 681.2:519.281

USSR

GLAGOVSKIY, B. A.

"Polynomial Approximation of Certain Asymmetrical Signals for Processing of Measurement Results"

Moscow, Metrologiya, No 12, 1972, pp 31-37.

Abstract: The ninth All-Union Conference on Automatic Control and Methods of Electrical Measurements has formulated the problem involved in approximation of sectors of recordings of rapid transient processes, which can be reduced to two cases: 1) approximation of sectors of recordings of classical functions with a predetermined degree of accuracy of reproduction of the section; 2) approximation using some special function based on experimental data and rather closely reflecting the actual process. A function is presented which is useful in many cases as a polynomial approximation of certain asymmetrical signals. Analysis of actual signals using this function can be facilitated by means of tables, graphs and special curve sets.

1/1

- 144 -

UDC 617.51-001+616.89-036.117-085.835.3

USSR

KONDRASHCHENKO, V. T., GLANTS, B. R., and MAYEROVICH, I. M.

"Hyperbaric Oxygen Therapy of Hypoxia in Acute Brain Injuries and Acute Exogenous Psychoses"

Moscow, Zhurnal Nevropatologii i Psikhiatrii, No 2, 1971, pp 271-277

Abstract: Sixty-three patients with acute brain injuries (2d-3d degree concussion) and 61 others suffering from acute exogenous psychoses (carbon monoxide poisoning, alcohol psychosis) were treated either with hyperbaric oxygen, oxygen at normal barometric pressure, or oxygen inhalation combined with various drugs. Hyperbaric oxygen was found to be more effective in both groups than either of the other modes of treatment. Besides exerting a favorable effect on the blood picture of the patients with brain injuries, hyperbaric oxygen abolished headaches after two to three treatments, normalized sleep, and enhanced the sense of well-being. In those suffering from mental disorders, one or two treatments with hyperbaric oxygen markedly reduced the respiratory insufficiency and hypoxia while relieving the psychotic symptoms. Inhalation of oxygen at ordinary pressure in pure form or combined with drugs was much less effective.

1/1

1/2 022 UNCLASSIFIED  
TITLE--PATHOGENESIS OF BURNS AND HOMEOSTASIS -U-

PROCESSING DATE--20NOV70

AUTHOR--(02)-GLANTS, R.A., BILYNSKIY, B.T.

COUNTRY OF INFO--USSR

SOURCE--PROCL GEMATCL PERELIV KROVI 15(2): 35-40. 1970

DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--PATHOGENESIS, BURN, HOMEOSTASIS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAE--3007/0115

STEP NO--UR/9080/70/015/002/0035/0040

CIRC ACCESSION NO--AP0135612

UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--20NOV70

2/2 022

CIRC ACCESSION NO--AP0135612

ABSTRACT/EXTRACT--(U) CP-C-

ABSTRACT. DATA WERE OBTAINED IN THE CLINICAL

EXAMINATION OF 312 PATIENTS WITH BURNS OF VARIOUS SEVERITY. THE

PATHOGENESIS AND PROTECTION IN THE CLINICAL PICTURE OF BURNS ARE

DISCUSSED. ATTENTION IS PAID TO THE ACTIVATION OF SYMPATHIC ADRENAL

SYSTEM AND TO THE PARALLEL CHANGES IN THE SYSTEM OF COAGULATION

HOMEOSTASIS. THESE CHANGES AND THE IMMUNOLOGICAL SYSTEM ARE

MANIFESTATIONS OF PROTECTION. STUDIED OF A NUMBER OF BIOCHEMICAL

INDICES POINTED TO DISTURBANCES OF HOMEOSTASIS IN THE 1ST HR AFTER THE

BURN. IN THOROUGH DIRECTED EXAMINATION NO CLINICAL MANIFESTATIONS OF

SHOCK WERE REVEALED IN 75PERCENT OF THE PATIENTS. THIS INDICATES THE

ACTIVITY OF THE MECHANISMS AIDING IN MAINTENANCE OF THE MOST IMPORTANT

PARAMETERS WITHIN THE RANGE PROVIDING A SATISFACTORY FUNCTION OF THE

VITALLY IMPORTANT ORGANS UNDER CONDITIONS OF THERMIC AFFECTATION.

RATIONAL THERAPY OF BURNS SHOULD BE PLANNED WITH CONSIDERATION OF THE

FACTORS OF PATHOGENESIS AND PROTECTION. FACILITY: EXP. DEP.,

LVGV INST. HEPATOL BLOOD TRANSFUS., LVGV, USSR.

UNCLASSIFIED

Acc. Nr: **AP0044599**

Ref. Code:

**UR 0497**

PRIMARY SOURCE: **Klinicheskaya Meditsina**, 1970, Vol 48,  
Nr **2**, pp **74-79**

**INTENSIFICATION OF THE CLINICAL EFFECTIVENESS  
OF PARENTERAL NUTRITION**

**R. M. Glants, Yu. M. Orlenko, F. F. Usikov**

**Summary**

During clinical investigations conducted in 89 patients with gastroduodenal ulcers the authors established that during resection of the stomach in the postoperative period there occur a rise of catabolism of nitrogen with its intensified excretion increase of metabolism and function of the cortical part of the adrenals, etc. These metabolic disturbances limit the volume of utilization of introduced nutritive substances. For intensification of the effect of parenteral nutrition it is necessary to combine the introduced with metabolic regulators: in the administration of carbohydrates — insulin, in the introduction of proteins — anabolic steroids, vitamins. This significantly enhances the assimilation of the substances introduced, normalizes metabolic disturbances, significantly reduces the quantity of required water and, thus, augments the effectiveness of parenteral nutrition.

**DI 02**

REEL/FRA  
**19771275**

Therapy

UDC 616-022.6

USSR

MUKHAMETZIANOV, Sh. A., GLANTS, S. A., MAKARON, D. I., and KATS, A. S.

"Hemodialysis in Hemorrhagic Fever With a Renal Syndrome"

Kazan', Kazanskiy Meditsinskiy Zhurnal, No 6, 1971, pp 64-65

Abstract: Of 16 hemorrhagic fever patients admitted to the kidney centers in Kazan' and Chelyabinsk in fair condition with acute renal insufficiency, azotemia, acidosis, hyperhydration, neurologic and cardiovascular disturbances, and (in three cases) meningoencephalitic symptoms, six responded to the standard therapy and regained normal kidney function. The other 10 received as part of the therapy venovenous hemodialysis with an artificial kidney 1 to 5 times. Azotemia decreased markedly, the composition of the plasma salts returned to normal, and kidney function was completely restored in 2 to 12 days. The three patients with the meningoencephalitic syndrome died, despite the initial effectiveness of hemodialysis and elimination of uremic poisoning.

1/1

UDC 696.05:621.38

USSR

GLASHCHENKOV, G. A., Senior Instructor of the Khar'kov Institute of Railroad Transportation Engineers, KOSISARCHUK, K. A., Laboratory Chief of the Kiev Branch of the Khar'kov Institute of Railroad Transportation Engineers

"Microelectronics in Railroad Automation and Remote Control Systems"

Moscow, Avtomatika, Telemekhanika i Svyaz', No 10, 1971, pp 7-10

Abstract: A study was made of the possibility of using modern microelectronics media in monitoring and control systems for railroad transportation, in particular, centralization of dispatch control, the automatic braking system and automatic control.

Arguments are presented for the reliability of integrated circuits, and English and American experience is cited. The characteristics and diagrams of microcircuitry are discussed, and it is concluded that the application of integrated circuits in railroad automation and remote control systems would lead to a decrease in the construction and installation operations, higher installation quality reliability, a decrease in intake, high fitness independently of the number of responses, a decrease in the load of the service personnel, a significant reduction in the size of the installations, exclusion of adjustment of

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USSR

GLASHCHENKOV, G. A., et al., Avtomatika, Telemekhanika i Svyaz', No 10, 1971, pp 7-10

systems and selection of parts, insurance of vibration and impact resistance and resistance to corrosion, the creation of standard units providing for repairs at the module replacement level and economically expedient reliable duplication of the automatic devices.

2/2

USSR

UDC: 518:517.9:53

GLASKO, V. E., KULIK, N. I., TIKHONOV, A. N., Moscow

"On Determination of a Geoelectric Cross Section Based on the Method of Regularization"

Moscow, Zhurnal Vychislitel'noy Matematiki i Matematicheskoy Fiziki, Vol 12, No 1, Jan/Feb 72, pp 139-149

Abstract: Measurement of the apparent resistance at the surface of the earth is an incorrect approach to the problem of determining a geoelectric cross section. The authors propose an algorithm for solving this problem which is based on the general method of regularization. This algorithm is applicable to a fairly broad class of plane structures, including the case of continuous variation of conductivity, in particular within individual layers. It is shown that if the initial data are sufficiently accurate, the proposed regularizing algorithm enables definition of fairly complicated cross sections with precision which is satisfactory for practical purposes. Five figures, bibliography of fourteen titles.

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1/2 025 UNCLASSIFIED PROCESSING DATE--30OCT70  
TITLE--OIL FREE PUMPING OUT OF LARGE VOLUMES TO 10 PRIME NEGATIVE13 TORR  
USING ONLY CRYOGENIC PUMPS -U-  
AUTHOR-(03)-YEFEROV, V.B., KOBZEV, P.M., GLASOV, B.V.  
COUNTRY OF INFO--USSR  
SOURCE--ZH. TEKH. FIZ. 1970, 40(3), 592-9  
DATE PUBLISHED-----70

SUBJECT AREAS--MECH., IND., CIVIL AND MARINE ENGR, PHYSICS  
TOPIC TAGS--VACUUM PUMP, CRYOGENIC PUMP, SORPTION, HELIUM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRA--1996/1554

STEP NO--UR/0057/70/040/003/0592/0599

CIRC ACCESSION NO--AP0118537

UNCLASSIFIED

2/2 025

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0118537

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE OIL FREE EVACUATION OF AN 800-1. VOL. FROM ATM. PRESSURE WAS STUDIED. AFTER 2 HR THE VOL., ENCLOSED BY WALLS HAVING A TEMP. OF 5DEGREESK, WAS EVACUATED TO 10 PRIME NEGATIVE13 TORR; THE PRESSURE IS REACHED BECAUSE OF THE ADSORPTION OF THE HE ON LAYERS ON CONDENSED GASES AND VAPORS. INSIDE THE CRYOPANELS HAVING A TEMP. OF 20DEGREESK, A PRESSURE OF 6 TIMES 10 PRIME NEGATIVE11 TORR WAS REACHED AFTER 1.5 HR. THE HERMETIC SEALING OF THE VOL. IS NOT NECESSARY TO ACHIEVE THESE PRESSURES IF THE VOL. IS SITUATED WITHIN THE MAINTAINED VACUUM. THE RATE OF CRYOSORPTION PUMPING OF HE BY THE CRYOPANEL SURFACE, ON WHICH LAYERS OF AR ARE CONDENSED AT 5DEGREESK, WAS 10PRIMES L.-SEC. THE CONSUMPTION OF ELEC. ENERGY IN KEEPING THE SYSTEM AT 10 PRIME NEGATIVE13 TORR WAS SIMILAR TO 4 TIMES 10 PRIME NEGATIVE4 KW HR-L. SEC.

UNCLASSIFIED

AAO 010789

Glasov I.M.

UR 0482

Soviet Inventions Illustrated, Section II Electrical, Derwent, 8

225691 RASTER APPARATUS FOR PHOTOGRAPHIC TEMPLATES  
has a fixed panel 7 in relation to the

camera body 1 to take the lens 2, whilst the support face of a ring 10 carries the photographic plate 9 in the box 8. The original 6 is placed on the illuminator 5 and the reactor lens on the camera 1. This is moved by hand up to the illuminator to give a rough scale position. Now the precision adjuster 12 moves the camera reference the illuminator and the scale reading is checked with the microscope 13. A glass with graduation lines is placed in the box which is then placed in 4 and the shutter 15 raised to allow the screw 16 to feed the cassette box 4 right in until the

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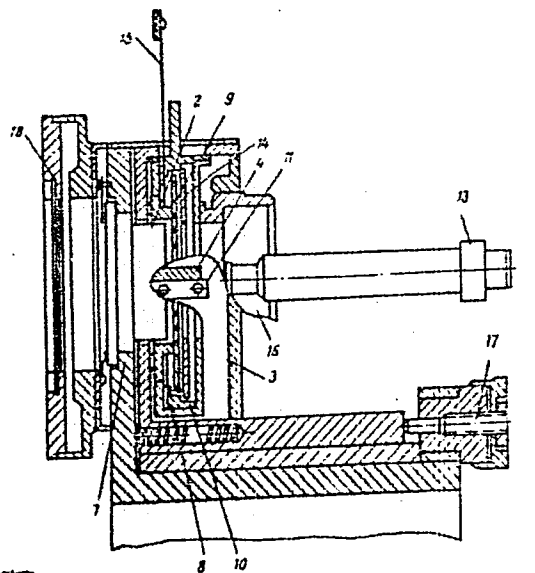
glass strikes the ring. Shutter 18 open, the micrometer screw 17 is used to set the camera for resolution and bring the lines on the glass into alignment with the plane of the picture. The screw is turned once more, the glass and box removed and the shutter closed. Box charged with plate is inserted in the cassette holder 4, the shutter 15 raised and the box run back in onto the ring and the picture taken. The plate is removed in the reverse order and developed. 20.3.67. as 1141703/26-10. GLAZKOV, I.M. et al (25.12.68.) Bul.27/29.8.68. Class 57b. Int.Cl. G03c.

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19561471

AA0010789



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1/2 016 UNCLASSIFIED PROCESSING DATE--18SEP70  
TITLE--ELIMINATION OF MULTIPLE DRUG RESISTANCE IN COLI BACTERIA BY  
AURANTIN AND ULTRAVIOLET LIGHT -U-  
AUTHOR-(03)-BRODINOVA, N.S., MOROZ, A.F., GLATMAN, L.I.  
COUNTRY OF INFO--USSR  
SOURCE--ANTIBIOTIKI, 1970, VOL 15, NR 3, PP 244-249  
DATE PUBLISHED-----70  
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES  
TOPIC TAGS--ESCHERICHIA COLI, DRUG RESISTANCE, ACTINOMYCES, STREPTOMYCIN  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRA--1985/0472 STEP NO--UR/0297/70/015/003/0244/0249  
CIRC ACCESSION NO--AP0100950  
UNCLASSIFIED



2/2 016  
CIRC ACCESSION NO--AP0100950

UNCLASSIFIED

PROCESSING DATE--18SEP70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. IT WAS SHOWN THAT AURANTIN, AN ANTICANER ANTIBIOTIC FROM THE GROUP OF ACTINOMYCINS ELIMINATED MULTIPLE DRUG RESISTANCE IN ONE OF THE TWO STRAINS OF E. COLI STUDIED AT A RATE OF 0.5PERCENT. IN CULTURES OF E. COLI (R PRIME PLUS) TREATED WITH AURANTIN, SEGREGATION OF THE RESISTANCE MARKERS FROM R FACTOR WAS ALSO OBSERVED AND SEGREGANT CLONES WITH ELIMINATED RESISTANCE MARKERS (TC PRIMECH) LM PRIMEP SM PRIMEP, (LM PRIMECH SM PRIMECH), TC PRIMEP SU PRIMEP (SM PRIMECH) TC PRIMEP NEGATIVE LM PRIMEP SU AND R COLONIES (TC PRIMECH LM PRIMECH SM PRIMECH SU PRIMECH) WERE FORMED. ON COMBINED TREATMENT WITH AURANTIN AND ULTRAVIOLET LIGHT THE NUMBER OF R COLONIE AND SEGREGANT CLONES (TC PRIMECH) LM PRIMEP SM PRIMEP SU PRIMEP SENSITIVE TO TETRACYCLINE SIGNIFICANTLY INCREASED (UP TO 30.4PERCENT). AT THE SAME TIME ADDITIONAL COLONIES WITH SEGREGATED RESISTANCE MARKERS (SM PRIMECH SU PRIMECH) TC PRIMEP SU PRIMEP SENSITIVE TO STREPTOMYCIN AND SULFADIMEZINE WERE DETECTED. COLONIES WITH LOST R FACTOR ACQUIRED IT UNDER THE EFFECT OF AURANTIN AND ULTRAVIOLET LIGHT AT A RATE OF 10 PRIME NEGATIVE3. NO TRANSFERANCE OF TETRACYCLINE AND SULFADIMEZINE RESISTANCE MARKERS NOT ELIMINATED BY AURANTIN AND ULTRAVIOLET LIGHT WAS OBSERVED ON CONJUGATION WITH THE RECIPIENT CELLS SENSITIVE TO THESE ANTIBIOTICS. SENSITIVITY TO AURANTIN OF E. COLI STRAINS, CARRYING R FACTORS, AND SEGREGANT CLONES WITH ELIMINATED RESISTANCE MARKERS DID NOT CHANGE.

UNCLASSIFIED

USSR

UDC 621.317.373.538.632

KOTCHENOV, N. V., KHLYAVICH, YA. L., ZVEREV, G. F., RADZEVICH, V. G., GLAUBER-  
MAN, A. S.

"Phase-Sensitive Detector with a Superhigh-Frequency Hall Data Unit"

Kiev, Izvestiya vysshikh uchebnykh zavedeniy--Radioelektronika, Vol XIV, No 8,  
1971, pp 946-947

Abstract: A study is made of the operation of phase sensitive detectors based on superhigh-frequency hall data transmitters. Measurements were taken at a frequency of 600 Mc/sec and the basic part of the measurement unit was a coaxial magnetic field resonator-concentrator. The dependence of the constant component of the Hall voltage on the phase shift angle and also the estimation of the linearity of the characteristic with respect to both components were studied. When measuring the linearity of the characteristic and its dynamic range, fixed attenuators were included in the measured or reference channel, and the results of these measurements are presented in graphical form. The linearity of the Hall data unit characteristic as a function of the magnetic field intensity and current in the dynamic range of no less than 30 decibels was experimentally confirmed. The experimental range was limited by the sensitivity of the indicator and the power of the generator considering attenuation in the decoupling elements and it is not limiting.

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USSR

UDC: 621.317.77:538.632

KOTOSONOV, N. V., KHLIVACH, Ya. L., ZVEREV, G. F., RADZEVUDZE, V. G.,  
GLAUBERMAN, A. S.

"On the Possibility of Constructing a Phase Meter With Direct Readout Based  
on a Hall Pickup for the SHF Range"

Dokl. Vses. nauchno-tekhn. konferentsii po radiotekhn. izmereniyam. T. 2 (Re-  
ports of the All-Union Scientific and Technical Conference on Radio Engineer-  
ing Measurements. Vol. 2), Novosibirsk, 1970, pp 95-96 (from RZh-Radiotekhnika,  
No 12, Dec 70, Abstract No 12A328)

Translation: It is pointed out that when a Hall pickup is subjected to a  
harmonically varying current and a magnetic field, a constant EMF is de-  
veloped across the Hall leads which is proportional to the cosine of the  
angle of phase displacement between the vectors of current and magnetic  
field strength. This emf may serve as a measure of the phase displacement,  
and is convenient for purposes of indication. The feasibility of building  
a phase meter based on this principle is checked out on a frequency of  
600 MHz. A schematic diagram of the installation is presented. The dif-  
ference between theoretical and experimental data is no more than 5 percent.  
Ambiguity in the phase angle reading may be eliminated by including a small  
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USSR

KOTOSONOV, N. V. et al., Dokl. Vses. nauchno-tekhn. konferentsii po radio-  
tekhn. izmereniyam. T. 2, Novosibirsk, 1970, pp 95-96

elongating insert in the measurement channel. Possible systematic errors  
(thermo-emf etc.) can be completely compensated. E. L.

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